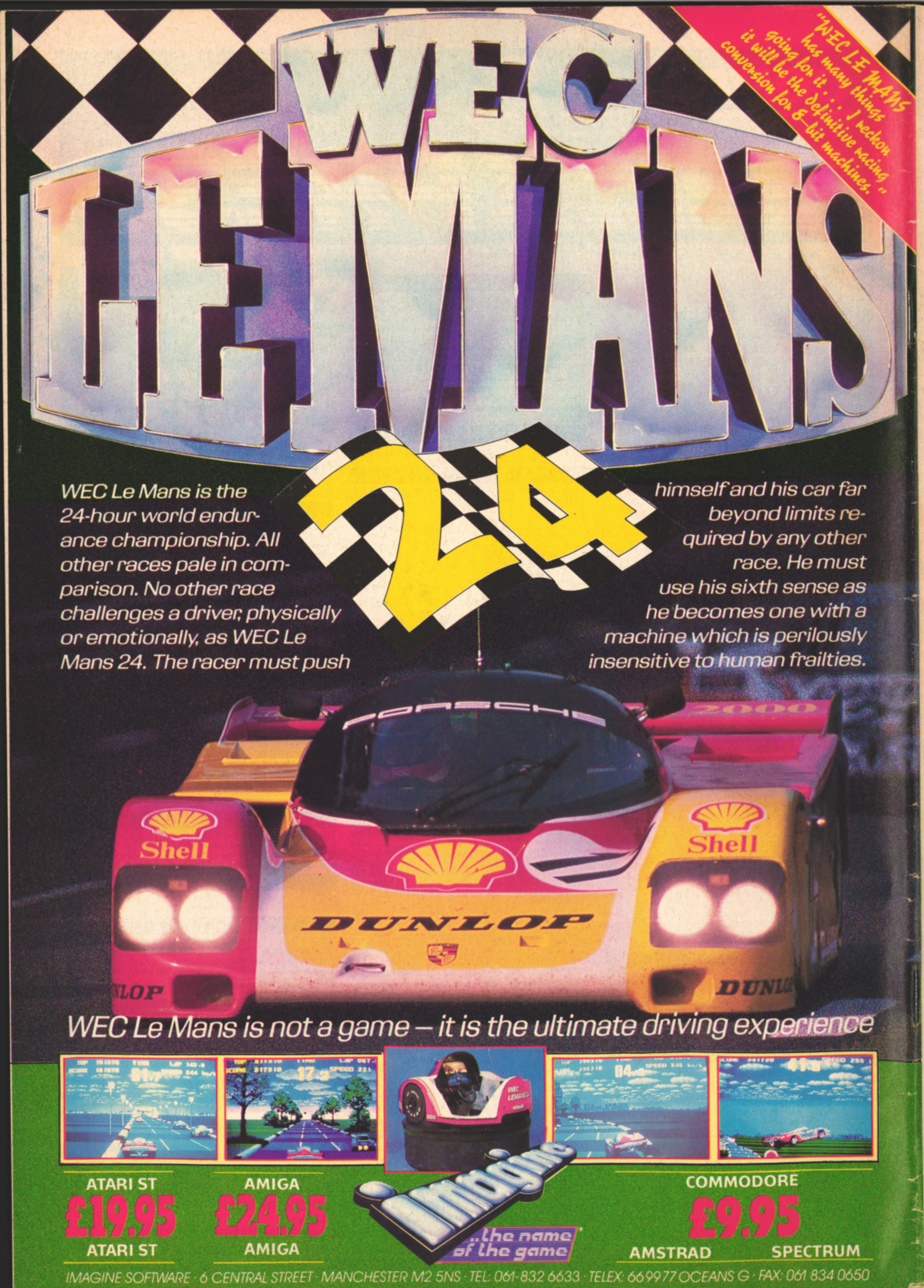

WEC LE MANS 24

"WEC LE MANS has many things going for it . . . I reckon it will be the definitive racing conversion for 8-bit machines."

WEC Le Mans is the 24-hour world endurance championship. All other races pale in comparison. No other race challenges a driver, physically or emotionally, as WEC Le Mans 24. The racer must push himself and his car far beyond limits required by any other race. He must use his sixth sense as he becomes one with a machine which is perilously insensitive to human frailties.

WEC Le Mans is not a game – it is the ultimate driving experience

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First news, first reviews – every week

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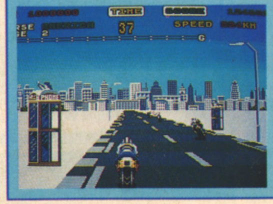

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Data protection for soccer ID info

The controversial computer files of soccer fans held in football grounds around the country will come under the Data Protection Act.

All spectators will thus be allowed to see the information on them which is being held. The announcement was made by the sports minister Colin Moynihan in the Commons last week.

The football club's computer will only say whether or not a fan is banned from the ground. It will not give reasons or criminal records. The Police, though, will be able to check the central computer.

Moynihan told the Commons: "There was nothing requiring the scheme to be subject to the act, but I firmly believe in the civil liberties argument."

• Moynihan: Civil liberties

FREE MONITOR FOR AMSTRAD PPC

Amstrad has decided to bundle a free monitor with its portable computer, the PPC.

The offer starts this week and will run through to the end of February. However, it will only affect buyers of the double disk drive versions – Amstrad feels that single drive machines are so cheap there is no room for freebies.

Buyers are being offered a 12 inch mono monitor worth £100. The prices of the 520K and 640K machines will remain at £549 and £649 respectively. The PPC's entry level price is £399.

"We've built up market leadership in the portable sector," said Amstrad's Malcolm Miller. "Now we want to expand the market again with a good value proposition." He claimed that consumers had asked for a proper monitor which could be used at home or in the office.

The theory is that portables are really used in only two locations with the machine being lugged continuously from one to the other. If so, Amstrad argues, a monitor in one of those sites would be a bonus.

• PPC: Monitor freebie

Many have earmarked Amstrad's screen display as being the worst aspect of the machine.

Amstrad boasts that it has established a firm grip on the portable sector since the PPC was launched a year ago. Market research firm Romtec puts its share at 34 per cent. But Amstrad readily admits that the market is not yet a terrifically big one.

One drawback for the bundle is that once the PPC is connected to an external monitor it cannot run business graphics. The portable's LCD screen is accessed through a CGA adaptor whilst the mono monitor will run through an MDA adaptor which won't run graphics.

Ah so! I am a crever computer

A computer has been developed by Matsushita which can hear a sentence in Japanese and then speak it in English. The prototype has been put together in conjunction with Carnegie Mellon University in the US. It is claimed to be the world's first computer to understand whole phrases that it has not already been pre-programmed to recognise.

Cheap Z88s at Comet

Those punters who are looking to pick up a portable but don't fancy Amstrad's offering should consider dashing over to Comet.

The electrical chain is clearing out old stocks of Cambridge Computer's Z88 and is selling the machine at £150 – £100 lower than the normal price.

Comet admits that many of these will be display machines and claims that "stocks won't last long". Once these have all been sold the new £299 Z88 pack will be whisked onto the shelves.

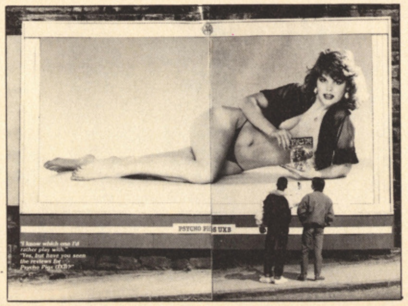
• Z88: £100 off

Offensive US Gold advert hammered

Games publisher US Gold has been rapped by the Advertising Standards Authority for its portrayal of women in a publicity campaign.

The ASA received eight complaints about US Gold's ad for *Psycho Pigs UXB*. When the ad was shown in various computer magazines last summer it prompted industry protest – it has since been pulled.

The ad depicted two young men looking up at a poster hoarding of a scantily clad young woman in seductive pose. She was holding the game. The ad was captioned "I know which one I'd rather play with", with a reply: "Yes, but have you seen the reviews for Psycho Pigs UXB."


PSYCHO PIGS UXB
"I know which one I'd rather play with."
"Yes, but have you seen the reviews for Psycho Pigs UXB?"

The people who complained all considered the ad to be "offensive and exploitative". The ASA's verdict is accompanied by a condemnation of the widespread use of semi-nude models to sell products. The Authority reminds advertisers to consider those people who are offended by the "gratuitous portrayal of semi–naked woman as an attention getting device."

US Gold's Tim Chaney explained to *Express:* "It was a funny ad and the intention was to be humourous. Obviously we're sorry if anyone was offended."

However, insiders suggest that US Gold is surprised by the response and that the firm considers it is simply ahead of its time. Apparently, the firm privately feels the ad would be considered normal in European computer mags and that it had simply tried to bring successful continental ploys to the UK.

Despite the advertisement's implication that *Psycho Pigs*, had received good reviews, the game was almost universally panned by computer magazines.

SIXPACK AMIGA OFFERS BLAST OUT

The mystery as to exactly which software is being bundled with the Amiga came to light last week with announcements of a total of six offers.

Because of the intricate machinations of the computer trade the matter is a rather complicated one. In effect normal dealers have a choice of three main packs. Any dealers which trade with computer supplier Microdealer will have the choice of a further three. These dealers will generally display Microdealer stickers on their windows.

• A500: SIX DEALS

Whatever the background Amiga buyers are being advised to shop around since the bundles differ. Also, whilst dealers will always want to be competitive on price there are bound to be differences as confusion sets in. No recommendation is being made to dealers to up the price of Amigas though.

Whilst this is not being labelled as a Commodore bundle it was the hardware manufacturer which came up with an original list of recommended games (Express 10). In turn suppliers have sealed various deals to obtain other games for the bundles which range in value from £135 to £250. To add to the confusion distributor SDL (linked closely to retail chain Silica Shop) is offereing its own bundle of ten games.

Commodore itself will be launching an official bundle within the next few months.

A fistful of offers

Sports Pack – value £135
Champion Basketball
Champion Baseball
Champion Football
Summer Olympiad
Winter Olympiad
Football Manager II

Deluxe Pack – value £190
Four Computer Hits
Football manager II
Starglider II
Rocket Ranger
Garrison
Mega Pack
Platoon

Super Pack –value £225
Barbarians
Arkenoid II
Spitting Image
Terrorpods
Army moves
Terramex
Obliterator
Wizball
International Soccer
Formula 1

Microdealer 1– value £180
Strike Force Harrier
Garrison I
Garrison II
Sky Chase
Bermuda Project
Fernandez Must Die
Power Struggle
Tetris

Microdealer II – value £250
The same as Microdealer I but also with Photon Paint

Peripheral Pack
Mouse bracket
Disk box
Mouse mat
Ten blank disks
Dust cover
Cheetah joystick
Joystick extender
Head cleaner
Workbench 1.3
DPaint

Dixons boosts PS/2

Dixons has given IBM's fledgling PS/2 range a shot in the arm by selling IBM's range of high end machines at cut down prices.

The Model 30 20 Mb version is down £300 from £1599 to £1299. The twin drive model is down £200 to £799 (or £999 with colour monitor).

"Because the IBM's aren't selling so well we've taken the price down to a level nearer to that of Amstrad's machines," explained a Dixons salesman. "The IBM's are that much better though."

• IBM Model 30: Dixons price cut

World does not end shock

Reports that the much feared 1813 virus would have catastrophic effects on PC owners throughout the country appear to have been greatly exagerated.

The virus was due to strike on Friday 13th last. Although doom for all computer users had been widely predicted, the world was still intact when Saturday 14th arrived. Virus busting company S&S Enterprises admitted that it spent more time on Friday talking to the press than helping distraught computer users. The virus story appeared in numerous nationals as well as on television.

"The press have gone absolutely potty about it," said S&S's bos Dr Alan Solomon. "It's no big deal - just one of about six viruses that are going around on the PC."

He estimated that about 14 sites will have been infected throughout the country.

The virus has been lurking in some machines for months, and only comes to life when the micro's internal clock reaches a Friday 13th. Then it springs into action wiping any files which people attempt to run. On subsequent days the computer then runs much slower.

S&S had urged people not to panic saying that the 1813 virus is "very rare" and easily avoided. It markets a £5 program that will look for the virus. Canny users simply re-adjusted their clocks so that Friday 13th never really happened.

Despite S&S's assurances the popular press duly went into mad dog mode. Solomon accepted that the Friday 13th angle had done much to set journos' noses twitching.

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It's Big Money

IBM is so huge that it makes £10,000 every minute - or £170 a second. This compares with poor old Amstrad boss Alan Sugar who only manages to make a fiver every second. IBM's latest profits were up 12 per cent for the last quarter to £1.33 billion.

COMMENT

Going a bundle?

Critics of Amstrad's PPC say it stands for 'luggable personal computer' but it's still a convenient way of taking your work from the PC at the office to the hotel room or your study in the front seat of your Sierra.

Like a doctor's surgery, the screen is nice and big but seems designed to conceal more than it reveals with its dim grey-on-grey display.

Now comes Amstrad's bundled monitor, worth £100, with every twin drive PPC. And very nice too: most people only use their PPC in two or three locations, so now you can have your PPC as the link between your PC at work and your monitor at home.

The fact that the monitor emulates MDA and so can't cope with any graphics is being carefully underplayed. But the very fact that Amstrad is using a monitor as a carrot to potential PPC buyers seems an admission of the awful quality of the PPC display.

Over at the Amiga vs. ST match, the bundling of games with the Amiga will no doubt attract quite a few more buyers. Meanwhile Atari's new Mega ST is set not only to bridge the gap between the 1040 and the Mega 2 models, it is also being aimed firmly at the serious end of the market – hence the talk of bundled word processing software with the new machine.

The concept of the Amiga as a graphics workstation and the ST as a MIDI unit, and both as primarily games and leisure machines, is surely due for a change. And in the eternal Commodore-Atari war, Atari has again taken the initiative in the battle for the Serious User.

Foul play

The new scheme forcing computerisation of fans upon football clubs will surely kill off many of the smaller outfits. Apart from the cost, many of these clubs depend on occasional supporters to pad out their gates – supporters who won't get round to getting registered and will stay home to listen to the game on the radio.

And, at the end of the day, how much hooliganism will this actually prevent? Won't it just push the yobbos outside the grounds, where they do most of their damage anyway?

Such blind belief in the magic of 'computerisation' is insidious and dangerous. It will ruin Saturday afternoons for hundreds of thousands of casual fans while doing nothing to deter those responsible for the problems. English clubs look as far as ever from getting back into European competition.

In for a pound...

Budgeteer Code Masters has finally abandoned selling games at £1.99.

Last November it began selling new budget titles at £2.99 but the old games stayed at the old price. Now though oldies such as BMX Simulator and Grand Prix Simulator will cost £2.99.

I SINCLAIR THEREFORE IBM

Sir Clive Sinclair's Cambridge Computer is working on an IBM PC compatible portable computer.

The firm is already in the portable market with the A4 sized Z88. However, that is not PC compatible – users who wish to transfer work done on the move to their PC must link up using cables. Cambridge itself is not prepared to comment on the matter and is clearly disturbed that the news has leaked out.

"We'd prefer to be our own conductor of when announcements of new products are made," said the firm's Paul Streeter. "New products are always a delicate matter."

He added: "You can rest assured that whatever it is, it will be innovative." Streeter was keen to stress that any new launch would not mean the demise of the Z88. "We're definitely not intending to replace the Z88. People tend to misconstrue these things." Cambridge is worried that this news will damage sales of the established machine.

• Sinclair: "Innovative" IBM compatible

Citizen is manufacturing a 3.5 inch disk drive for the machine as part of a special deal: That firm, though, refuses to discuss any deals of this nature.

As yet it is not known when the machine will arrive. Industry pundits, though, are suggesting that autumn will see the arrival of Sinclair's PC portable.

Wizball virus worries Ten Star bundle buyers

A virus has appeared on one of the games included in the Amiga *Ten Star* games bundle.

It emerged last week that some copies of *Wizball* – which is sold as part of the ten game pack – had been infected during duplication. Computer supplier SDL – which sells the bundle to dealers around the country – assured *Express* that the problem has been largely resolved.

SDL claims that the *Byte Bandit* virus had been accidently transferred to *Wizball* when the disks were duplicated on Christmas Eve. It was found two days later and all the disks were "apparently "re-duped".

However, SDL admits that a few slipped out.

"Of all the *Te n Star* packs out there I would imagine that the numbers of infected *Wizballs* are negligable," commented SDL's Paul Ellis. "There wouldn't be any but because of all the Christm,as rush a few sneaked out."

Ellis said that any infected *Wizballs* would be replaced providing *Ten Star* buyers are "absolutely sure" they have the virus. SDL's address is **SDL UK, Unit 10, Ruxley Corner Industrial Estate, Sidcup Bypass, Sidcup, Kent, DA14 4BR.**

CBM AMIGA
WIZBALL
• Wizball: Ten Star problem

Games console planned by secretive Epyx

A new games console is being secretly developed by US software giant Epyx.

Details of the machine are virtually non existent and Epyx is refusing to comment on the matter. However, speculation is growing that it will be a low cost hand held affair.

Epyx president Gil Freeman refused to be drawn on the subject. "I cannot confirm any rumours you may have heard," he said. "We are developing new hardware but if we launch it later this year and it turns out to be a solar powered flashlight you're going to look pretty stupid."

Trusted trade customers were apparently given a sneak preview of the machine behind closed doors at the recent Consumer Electronics Show in Las Vegas.

The likelihood is that any such console will be launched later this year and could be available here soon after.

Mindware loses its way in Labyrinth saga

The development of Telecomsoft's upcoming adventure epic *Lasers and Labrynths* has ground to a halt.

The development team responsible Mindware has been taken off the project and, according to the firm's agent, has "ceased trading". No decision has yet been made as to what will happen to the game but it is way behind schedule. It was due to be launched in late summer

Mindware's agent Marjacq Micro is clearly furious with the developers' handling of the project. "We knew they were having difficulties and that deadlines were slipping so we got onto them," said the firm's Jacqui Lyons. "Then they just said they couldn't finish it. I lost my rag because they took it so casually. Kind of like cancelling a dinner engagement."

Mindware was previously responsible for *Tracker*. Neither of the firm's directors were available for comment last week.

Telecomsoft is likely to have forwarded money to Mindware – the firm is yet to decid its course of action.

ATARI PREPARES NEW MEGA ST

Atari is planning to introduce a new model ST into its range for the low end business user – and a word processing bundle will appear for the new configuration at Easter.

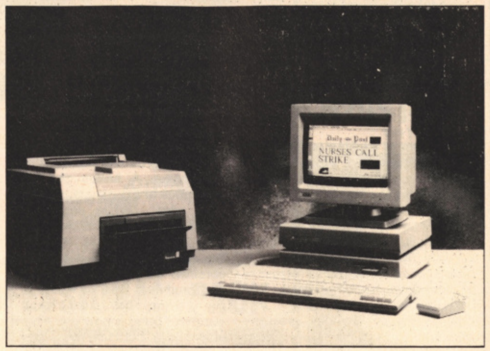
In effect, the new Mega 1 ST will be a 1040 inside a Mega ST casing. The Mega shape is generally regarded as more aesthetic and easier to handle than the 1040's.

The new machine comes with a mono monitor and will be priced at £599 excluding VAT. A 1040 with monitor will also be on offer for £599 including VAT. It costs £499 without monitor.

Atari is viewing this as a reshuffling of its range to suit different users. Instead of being a low end business machine the 1040 is now regarded as a high end home machine: "It's like the 520's elder brother," explained a spokesman.

On the bundle he said: "We want to make it easy for the first time computer user to get a full package rather than having to be confused by jargon.

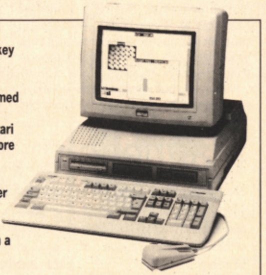
"When we launched the 520 it was seen as a high end computer for the home. But as time goes on computing becomes cheaper. That's the way the 1040 has gone. In ten years time our Transputer will be a low cost computer for the home."


• Mega ST: Low cost 1040 version soon

● In an attempt to promote its PC2000 range (above) Amstrad has become the latest manufacturer to monkey IBM's famous advertising campaign based on the catchline "I think therefore IBM".

Those chaps at Brentwood are splashing out a claimed £7 million on promoting their top machines using the slogan "I think more carefully therefore I Amstrad". Atari has already had a go with the immortal "I think therefore IBM won't get my PC order".

Opinions vary as to how effective, or indeed comprehensible, the new Amstrad line is. One observer commented: "One might have thought that since the hardware manufacturers claim to be offering an alternative to IBM they could manage to come up with a satisfying alternative to IBM's advertising ploys rather than traipsing around in their shadow."



The no-touch joystick arrives

One of the weirdest creations on offer at this month's CES show in America was a revolutionary joystick for the Nintendo.

The box-shaped device is operated by sticking your hands inside and moving them in the desired direction without needing to touch the sides. To 'fire' you simply needed to shake your hands violently for a split second.

The mysterious U-Force caused something of a stir but it isn't likely to reach the UK until next year at the earliest.

City planning by computer

Inner city planners are turning to computers in order to avoid the creaton of urban decay and ghettoes.

Super advanced programs and computers are being used to analyse the £5 billion re-development of the Kings Cross area. Since it is cut off by so many railway tracks there looms the danger of a ghetto appearing and mis-use of space.

"We are using a computer to humanise the environment," said Bill Hillier of University College.

"Some of the major problems of the past lie in freezing out natural patterns of movement and leaving much space empty. It is isolated empty places which are dangerous."

His computer has enabled him to analyse how the area will develop under different environments.

This method is called "space syntax".

Help at hand for baffled PC users

SuperHelp
uperHelp
uperHelp
uperHelp
• SuperHelp: Tips on PC software

PC owners still tip-toeing their way through the minefield of business software are being offered a range of help programs.

Costing £40 each the SuperHelp *series from Trend Dataspeed contains tips which should help users through the likes of* Lotus 1-2-3, WordPerfect 5.0 and dBase III+. *Each contains a 'how to' section, reference points, index and overview of terms and features.*

More info on 06285 30611.

GAMES TOP TWENTY — FULL PRICE

1	1	Operation Wolf	*Spec, C64, CPC, ST, Amiga*	OCEAN
2	2	Robocop	*Spectrum, C64, CPC*	OCEAN
3	3	Afterburner	*Spectrum, C64, CPC, ST*	ACTIVISION
4	4	Thunder Blade	*Spectrum, C64, CPC, ST, Amiga*	US GOLD
5	5	Double Dragon	*Spectrum, C64, ST, Amiga*	MELBOURNE HOUSE
6	11	Batman	*Spectrum, C64, CPC, ST, Amiga*	OCEAN
7	NE	Double Dragon	*Sega console*	SEGA
8	12	Last Ninja 2	*Spectrum, C64, CPC*	SYSTEM 3
9	6	Falcon	*ST, Amiga*	MIRRORSOFT
10	8	Giants	*Spec, C64, CPC*	US GOLD
11	9	Football Manager 2	*Spectrum, C64, CPC, ST, Amiga, PC,*	ADDICTIVE
12	14	Pacmania	*Spec, C64, CPC, ST, Amiga, MSX*	GRAND SLAM
13	20	Microprose Soccer	*C64*	MICROPROSE
14	7	R-Type	*Spectrum, C64, CPC, ST*	ELECTRIC DREAMS
15	RE	Lombard RAC Rally	*ST, Amiga, PC*	MANDARIN
16	13	Game Set and Match 2	*Spectrum, C64, CPC*	OCEAN
17	10	Return Of The Jedi	*Spectrum, C64, CPC, ST, Amiga*	DOMARK
18	19	Four Soccer Simulators	*Spec, C64, CPC*	CODE MASTERS
19	18	Elite	*Spec, C64, CPC, ST, Amiga, PC, BBC, Elec, MSX*	FIREBIRD
20	RE	Heroes of the Lance	*Spectrum, C64, CPC, ST, Amiga*	US GOLD

GAMES TOP TEN — BUDGET

1	2	Bomb Jack	*Spectrum, C64, CPC, ST, C16*	ENCORE
2	12	ACE 2	*Spectrum, C64, CPC*	CASCADE
3	1	Joe Blade 2	*Spectrum, C64, CPC, BBC, C16, Electron*	PLAYERS
4	11	Commando	*Spectrum, C64, CPC, BBC, Electron, C16*	ENCORE
5	13	End Zone	*Spectrum, C64, CPC*	ALTERNATIVE
6	RE	Turbo Boat Simulator	*Spec, C64, CPC*	FIREBIRD
7	5	Leaderboard	*Spectrum, C64, CPC*	KIXX
8	10	Skooldaze	*Spectrum, C64, CPC*	ALTERNATIVE
9	RE	ACE	*Spectrum, C64, CPC*	CASCADE
10	RE	Advanced Pinball Simulator	*Spectrum, CPC*	CODE MASTERS

COMPILED BY GALLUP

NE – new entry
RE – re-entry

Schofield wins ball

The editor of *The Guardian's* computer page Jack Schofield, a renowned enthusiast of Atari machines, was so keen to get his hands on another ST to add to his collection that he entered *New Computer Express's* Christmas Competition.

Unfortunately, the influential pundit failed to walk away with the desired first prize. He did however manage to come 88th and win a football signed by the Liverpool team.

Schofield commented: "It's going to be jolly difficult getting that into the disk drive of my ST."

Other hopefuls should turn to page 54 for a full list of winners.

Labour saves labour

Neil Kinnock's Labour Party has just splashed out a hefty £270,000 on computerising its headquarters in London.

The Opposition is hoping to use the 14 terminals to store information on the million or so members it hopes to have by the time the next election comes around.

Names, addresses, union information and the like will all be at hand.

Anyone thinking about starting up a computerised major political party might be interested to learn that Labour is using McDonnell Douglas MidBoy hardware with 2Mb memory on each terminal and a 333Mb Winchester hard disk.

BUNGLERS!

New breed of hacker causes chaos

The danger of hacking is spreading from "bespectacled whizz-kids" to ordinary computer enthusiasts – and they are the most dangerous.

That's the view of Professor Henry Beker who will warn delegates at next month's Corporate Computer Security Conference that hacking is becoming easier with the emergence of more sophisticated programs and computer literate users.

Beker, who provides security systems to various Government agencies and advises large companies, says the new breed of hackers is even more dangerous than its predecessors. He claims that amateurs can do far more damage than hardened hackers.

"This is analagous to the break-in at home. The professional may get away with more items of value but at least he will not destroy your home. A hacker can be disastrous to a corporation."

He adds: "While data has always been vulnerable, the increasing awareness of both the ease with which it can be obtained and manipulated and the fraudulent uses to which it can be put has meant that computer fraud is now reaching epidemic proportions."

Beker will be addressing delegates at the Novotel, Hammersmith from February 14-16. He runs Zergo Limited, which advises companies on ways to beat the hackers.

• Beker: Watch out for the new breed

Magnetic mystery baffles Logotron

Games publisher Logotron is blaming magnetic interference on loading problems with the PC version of *StarRay*.

Although the game was launched in November the reason for the large number of returns has only just come to light after a thorough examination of the disks. Logotron says that it is currently following some leads in order to track down the source of the magnetic interference.

Logotron's Herbie Wright told *Express* that any punters experiencing difficulties should return the game to Logotron rather than to any shop. The firm will then send a new version as well as a £5 voucher off any Logotron game. To qualify though the game must be returned by February 10th.

"We're genuinely mystified as to where the interference came from," said Wright. "We just know that large numbers of the game were in the vicinity of a magnetic field. We're giving away the voucher by way of apology to customers," he said. Logotron's address is: Greyhound House, 16 Greyhound Road, London W6 8NX.

When the chips are down...

American electronics firms are so worried by Japanese domination of the D-RAM chip market that they are planning to form a consortium and fight back.

Manufacturers plan to join forces and so increase production of the vital chips. The shortage of these chips has been the cause of computer prices rising in the past. American hardware manufacturers have long felt that their inability to compete in the chip market bodes ill for their position in all fields of electronics development.

US computer manufacturers appear to be willing to share the cost of setting up a consortium and manufacturing the chips. This, they reason, would leave them less vulnerable to the volatility of the Japanese D-RAM market which has swung from cheap chips being "dumped" on the US market (and thus forcing US companies to pull out of chip manufacturing) to severe shortages (causing computer companies to lose money and hold back launches of new machines).

The announcement of a consortium comes through the American Electronics Association, which has 3,500 members, and the Semiconductor Industry Association. Talk of an agreement has been circulating through electronics conventions for some time. But insiders say the companies are now willing to take action.

Kalamazoo: familiarity breeds contentment?

Kalamazoo has come up with an invoicing package for the PC which it claims will dispense with old fashioned book-keeping for good.

The £295 program runs with Kalamazoo's established accounting package *One–Up*.

The company hopes that because many small businesses are familiar with Kalamazoo's manual book-keeping system, they will feel less daunted at upgrading to a similar computerised system.

Kalamazoo reckons there are over 100,000 businesses in the country which still operate manual accounting systems. It says that *One-Up* and the associated products "closely resemble the layout of existing manual accounting systems."

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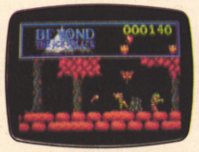

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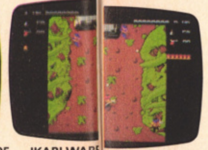

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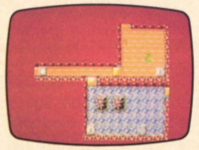

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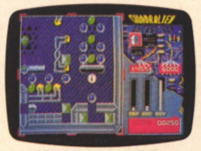

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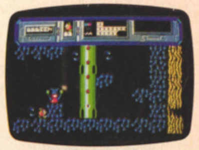

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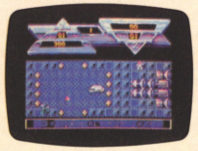

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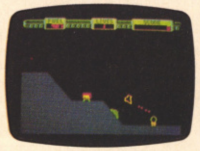

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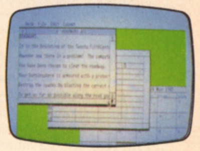

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How a PC1512 changed my life!

Richard Challis suffers from dyslexia. The handicap was ruining his career prospects and his sense of self esteem – until he bought an Amstrad PC1512...

Early in 1987 Richard Challis was told he would never be able to sit his A-Levels. His ambitions to enter university and gain an electronics engineering degree looked remote. Three months later he bought an Amstrad 1512 – it changed his life. Last June he became the first student to take exams with the aid of a computer. Today he's studying three A-Levels and well on his way to higher education.

Challis suffers from the word recognition disability dyslexia. His IQ is said to be 130 but his handwriting looks like that of a ten year old's. He writes half as quickly as is average for people of his age and intelligence; most times he can't even read the writing himself. He can spell in his head but can't get it onto paper without messing up all the letters.

He walks to Bath College every day with a bag that's obviously far to big for him. It contains a motley crew of dog-eared text books and bulging file folders as well as a jumble of computer leads, some batteries, manuals, 5.25 inch floppies and a Cambridge Computer Z88 portable. The PC1512 stays at home.

The Z88 completely cancels out all his disabilities, since there is now no need to make use of the handwritten word. Each lesson he's tapping notes while his peers are scribbling. The formula is thus: dyslexia + computer = normality.

"I began using the Z88 about two weeks after I started at college. Before that I just had to take notes and do as best as I could. But with dictation that's particularly difficult. People criticise the Z88 because of its rubber keyboard but I think it's brilliant because it's silent. It would be a distraction for the other students if I was going clickety clack all day." After taking notes Richard can plug the Z88 into the Physics department's printer or he can go home and port it over to the 1512. The end result of course is a set of notes superior to normal handwritten ones.

What is dyslexia?

Dyslexia is an organising disability which impairs short term memory, perception and hand skills so causing interference in the development of language. Five per cent of students suffer from it.

Specialists say it should be diagnosed by the age of nine. However, Richard Challis was diagnosed at the age of 13. Dyslexia is often hereditary and there is no known cure. Famous dyslexics include Lewis Carroll, Leonardo da Vinci, Thomas Edison, Albert Einstein and George Washington.

"I am computer minded and I enjoy working with them," says Challis. He's currently working with Borland's *Pascal* language to produce a program for Dyslexics which will help them recognise figures better.

Obviously the computer is essential to his education. Challis had a go at gaining a grant for the Z88 but it came to nought. "Maybe there's a chance at the Dyslexia Society for someone without any money. But they've only got limited funds."

• Challis: Dyslexia? No problem

Examining the advantages of a PC

While the other nervous students were in a draughty hall last June, Challis was on his own in front of an Amstrad 1512. Being the first student to take his exams on a computer there was no correct procedure to follow - teachers duly checked and rechecked all the disks.

Without the computer Challis has no doubt that he would have failed. "When the examiner had come to read my notes he wouldn't have been very pleased, especially if he was tired. Without a computer they would have given me 15 per cent extra time to work in. But that's not satisfactory because I'm still rather messy."

Education authorities at the time were completely entangled by the administration and organisational red tape of the new GCSE curriculum. It was in this environment that Challis and his family applied to use his PC in appropriate exams.

"At first there was some lack of communication. We wrote to the school and they wrote to the board. It took ages for any decision to be reached. It was like taking one step forward and two steps back. It wasn't that the board was saying 'don't worry about this midget'. They just wanted it to be fair on everyone. In the end the board of governors gave us a one month warning to be ready for the exams. It was plenty of time to get organised."

Now that the precedent has been set teachers insist that, if they want to use one, dyslexics must apply to use a computer at the beginning of their course. If so, they are required see an educational psychiatrist who will check speed of handwriting to speed of word processing. Richard's word processing averages out at 25 words per minute - about the same as handwriting. Therefore there was no unfair advantage in the micro. Also, he was allowed to do the printing outside of exam time, since that would have been an intolerable distraction.

The dishonourable among us will immediately spot, though, that a sly character might easily be able to turn the PC into a very unfair advantage.

"I could have taken in a memory resident database, but everything was checked very thoroughly. It would have been amusing to try but the first person who uses a computer and cheats will get a red letter from me. If I had been caught cheating there would have been a right howl about it. My disks were all validated by a teacher who understood MS/DOS and *WordStar 1512*."

"The computer has made me more confident. because I can deal with the problem I can talk about it and not just clam up."

WordStar was the only software used and he wasn't allowed to use the spelling checker disk except for on the English Oral exam in which other students can use a dictionary anyway. He didn't use the computer for papers which required short answers or formulae such as Maths. Those which required long essays such as Geography, History, English made the most of the word processor.

Students taking the new GCSEs have enjoyed a softened focus on the exam itself with more attention being paid to projects. Challis used his computer to design graphs and pie charts for an Economics project. "I didn't use anything like VP Planner though. I'd rather design the graphs pixel by pixel using *GEM Paint*." All students are allowed to use computers for projects, though, with many turning to the trusty on-site Beeb for assistance. ●

Limited help

Computers will help only some dyslexics. Those who have problems reading will find it just as difficult to use the keyboard. Those who can read and take in the printed word easily will find word processing a godsend.

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NORTHERN SINCLAIR SHOW

Due to a lack of previous shows in the North for Sinclair machines Sector Software are to be organising a Northern Sinclair show around Preston in Lancashire (jnct 28 or 29 M6) in about March, anyone who would like to be mailed with details or any Spectrum, QL, Z88 companies or peripheral suppliers please contact us for details.

We have a range of QL, Spectrum, ZX81, and Amstrad spare parts including service manuals, ring for prices on individual items.

SECTOR SOFTWARE are always on the lookout for Good quality programs for the QL, Z88 or Amiga, if you have written one then please contact us.

BULLETIN BOARD

We are now running a Viewdata bulletin board on 0772 454328 *6pm to 9am weekdays and all weekends* which is mainly QL specific but includes a Z88 section and is soon to include an Amiga section.

We are at the moment writing *Amiga to Z88 file transfer software* and *Amiga to QL software.* If you are interested in either of these then please contact us for more details. We stock too many products to mention in any advert, *(we have a regular four page advert in QL World each month)*, so please send us a SAE or give us a ring for our free product guide and price list.

A goods ordering section is now available on the Bulletin Board, so goods can be ordered by Modem.

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EXPRESS MAIL

Dear Reader

Three pages this week, packed with another selection from our postbag. Got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:
Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, NO personal replies, whether you include an SAE or not. We're too busy putting Express together!

THEY'VE GOT NO SOLE

I have been having great problems with Mirrorsoft and the new simulation, *Falcon*, for the ST. Apparently they do not load on some ST disk drives. Well, mine didn't, so I sent it back at Mach 3 as they claimed they were in the process of writing a new program that would work. I kept in contact with them as to the progress of the new disks and waited expectantly.

To my horror they say they have never received my disks, five or six weeks after I sent them. As I did not send them by recorded delivery, as far as they were concerned that was the end of it. They of course blamed it on the Christmas post, but as they admitted a few others have not been received either, I remain sceptical.

I am sure many of your readers will agree that there are few things more infuriating than forking out £25 for a long-awaited game which does not load. I think we must not tolerate so much of this in the software market or more care would be taken before the release of the game. I cannot see the logic in spending two years on developing a game when it does not load up at the end of it. An analogy with some other commodity, like a pair of shoes would be no matter how nice they looked they are not a lot of use without soles.

Iain Ramsbottom, London.

● ***First the problem of the disc. Copy protection often works by relying on the disc drive to behave in a certain way when you ask it to do something extraordinary – read a sector that can't normally be read or suchlike. This may well be outside the specifications of the drive that the manufacturers have decided on, but if it works in practice then everything is OK. The problem comes when the manufacturers change the drives slightly, while still conforming to the agreed specifications: maybe that sneaky copy protection routine doesn't work any more.***

This is what may have happened in Falcon's case. It just highlights the problems caused by lack of communication between the software company, which understandably wants copy protection, the programmers, who understandably devise what they think are the cleverest protection routines possible, and the drive manufacturers, who change drives while still sticking to standard specs.

Whoever has lost your disc – the Royal Mail or Mirrorsoft – doesn't really matter now. Though it's easy to say now, whenever you send discs back, always use registered post. Then if they do go astray you at least know who to nail.

HELP WANTED

Please help. There is obviously something very wrong with me because I feel no urge to sell my CBM 128 system and buy an Amiga! I'm not frightened of progress but I'm not a techno-junkie either. I believe it doesn't matter which computer you have, it's what you do with it that counts, and the fact is that most Amiga 500 owners just play games and draw pictures.

Nothing wrong with that, I do it too, but until there is more (and cheaper) 'serious' Amiga software then it will remain very much a games machine for many owners. Not what I need at all.

I know that one day there will be no more cheap 64/128 software and no more spares and I'll have to upgrade. I wonder if the Amiga will itself have been overtaken by then? Meanwhile, I'll enjoy not worrying about viruses, or which kickstart I need, or if I can get it, or if it will run my programs. I'll enjoy using *Superscript*, *Superbase* and *GEOS*. I'll enjoy writing my own programs in BASIC 7.0 and yes, I'll enjoy playing games too, but I won't sell a year-old system at a loss just so I can play them in stereo with 4,096 colours.

Stephen Mercer, Shaftesbury, Dorset.

DON'T WASTE YOUR MONEY

Mystery WINNER prize

Has anybody out there ever sat down and asked themselves "What makes us spend up to £25 for a computer game?" (The honest amongst us, that is.)
I mean, what do we get for our money? Is it:
£25 for flashy graphics?
(No: you get better pictures on TV)
Well then, is it £25 for music?
(Flick on the radio. Much better quality and more quantity)
Then it must be £25 for entertainment?
(£1 for a video, £3 for the pictures and it's more social and can be more fun)
Is it £25 for addictiveness?
(Do you really get £25 worth? Occasionally you can, but 98% No. You could spend £25 in the arcades. More choice and you'll probably play longer there than you would on the £25 game)
Then what the hell is it? If only I knew. I still spend £50 a month on software for my ST. The only game worth £20 in my opinion is *Speedball*.
Computers can be anti-social and like a drug to spend money on. But we love them. I honestly don't think there is an answer to the question. If there is then write in and let me know.

Now a few quick points:
1 Mary Whitehouse. You're a pest. Go away and leave us in peace.
2 Martech. So the ST can't handle *Phantom Fighter*'s graphics? Well to hell it can't. You've lost a customer for a rubbish statement. You should be ashamed.
3 Well done *Express*. The mag's great.
4 Well done Ocean. *Operation Wolf*'s great.
5 8 bit owners: stick by your machines. They are still the main source of software income. Without you, there would be none of us.
6 Aren't Hearts doing well? (UEFA cup)

Kenneth Jackson, Edinburgh.

● ***I wish I knew what makes us spend money on games too. As someone who used to put his paper round money into the Space Invaders machines in the arcades I can say it goes beyond the graphics or the gameplay itself. Anyone who does know the answer will be a rich person; come to think of it, perhaps they already are, and they happen to head large games houses.***

Whatever you think of Mrs W, she speaks for a lot of people. She's not a politico or a rock start or a writer or anything, just a housewife; her views have become well known because so many share them, though I am not one of them. As for points 3, 4 and 5, you're quite right of course.

FREE LOVE

Your helpful feature on computer problems in issue 9 was not entirely accurate in its comments on the Amiga, possibly because you were looking for commercial solutions.

Amiga users are fortunate in having a great deal of excellent public domain software and shareware available which can cure any shortcomings. To recover an accidentally deleted file there's the PD program *Undelete* on Fish disk 154, although it does need two disk drives. *Diskalv* (Fish disk 20 or the January '89 issue of *Jump Disk* for the latest version) usually recovers deleted files and is much better than *DiskDoctor* for salvaging corrupted disks.

There are at least half-a-dozen PD programs to provide macro facilities, as well as commercial products such as *Zing!Keys* and *Hotkey* in the *Gizmoz* collection of utilities.

ARP (Amigados Replacement Project) on Fish disk 123 provides an alternative operating system that is smaller and faster than AmigaDos and includes a Resident feature to keep often used commands in memory. If you prefer to keep such commands on a RAM disk then ASDG's recoverable RAM disk on Fish disk 58 will survive rebooting the computer.

John Walker, Bath, Avon.

AMIGA VIRUS

I have just moved up to the 16-bit market with the purchase of an Amiga A500. As a computer user since 1981, I have kept abreast of the latest news and developments by reading mags like *NCE* and now consider myself fortunate. If it wasn't for the publicity given to the spread of computer viruses, and the various ways to combat them, I would now be the proud owner of a complete set of infected discs.

When I received my Amiga, complete with the *Ten Star* games pack, I write-protected all my discs as a matter of course. A friend who was already an Amiga owner brought round his PD software to show me, and whilst demonstrating SYSTEM Z, a virus killer, we discovered that one of my games pack discs was infected with the *Byte-Bandit* virus.

I have contacted the dealer who sold me my machine and he said they have only just found out about the virus from the distributor of the games pack discs. The virus is on *Wizball* (disc no 10).

I feel very sorry for all the hundreds of computer beginners who bought the Amiga special offer packs at Christmas, who may not have write protected their discs, and now unwittingly have transferred the virus to all their collection. My congratulations to the distributors of the *Ten Star* games pack for doing more to spread the virus than anyone before them.

M J Post, Aldershot, Hants.

FOR FRACTAL FANS

The subject of fractals has been generating interest to home computer users. I am considering starting a small newsletter *Fractal Report* containing articles on the subject. The articles will be about practical programs for generating fractal images on specific home computers or on PCs, and also machine code routines for specific microprocessors. In addition relevant general interest articles will be considered, together with readers' letters. Ideally, articles should be submitted on A4 sheets "camera ready" for reproduction. However, handwritten articles may be considered in exceptional circumstances.

An introductory flyer and the first edition will be issued free to anyone interested. Anyone who submits articles that are accepted for publication in the first issue will get the next five issues free of cost, if there is sufficient interest for the newsletter to continue. At the time of writing I have already had some high level interest, and if any of the people who have enquired actually send in articles the newsletter should be a good one.

John de Rivaz, West Towan House,
Porthtowan, Truro, Cornwall TR4 8AX.

A LOAD OF DOS?

I am writing about Issue 9 of your magazine, where on page 26 in your article called "Working out with Workbench" you call the Amiga's operating system a "clumsy collection of commands by the name of AmigaDos."

Granted the Amiga has to refer to the disc for the information on the commands but that hardly slows the operating system down at all.

Saying that the workbench is not a patch on the Mac or ST is in my opinion utter nonsense. A program will take time to go into operation if it takes up a lot of memory and if there is another application running. However, under normal conditions workbench is very effective.

Until now I have found that *Express* and I share opinions in many subjects but in my opinion you have never written anything so far from the truth.
Jon Steadman, Banstead, Surrey.

● ***Well, everyone's entitled to their own opinion of course, but I find the Amiga's operating system sluggish compared not just to the Mac's and ST's, but also to that of the single-tasking, 1-colour monitor, one-channel one-note mono sound, no-blitter machine the Amstrad PCW. Which is not so say that CP/M is faster than AmigaDos, just that it's... er... less slow.***

STOP MAKING CENSORS

I am writing to you on the subject of censorship. Whether it be censorship of TV, radio, books or computer games – it does not matter which as I believe censorship is bad. As soon as people try to tell others which to see, hear, listen, think or do we have problems. I'm not saying that young children should not be protected. What I am saying is that grown, mature adults should be allowed to play violent computer games if, when and how they want to.

The likes of Mary Whitehouse can go and mind their own business and let others get on with theirs. The world does not need 'nosey parkers' and 'busy bodies' so I say to everyone out there who likes to interfere with other's lives "push off you whinging nerd. If you don't get your nose out of my business I'll break it!"
Gary McCombie, Stonehaven, Kincardineshire.

MARY
WHITEHOUSE

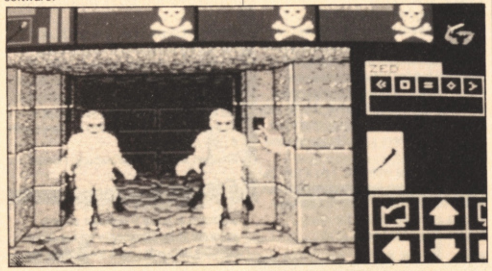
• Do we need protection? (see *Stop making censors*)

● ***I always get suspicious when people say they don't believe in censorship. More often than not, what they mean is they don't believe what they like should be censored. If you don't have censorship, then you literally allow anything at all. Do you think it right that people should be allowed to make and sell videos where willing participants are actually killed in front of the camera, such as reportedly happens in America? Surely you have to have some form of censorship; at least then you can argue where the line should be drawn on, for example, violent computer games. To a point, I agree with you that adults should be allowed to play violent computer games, though I wouldn't like an anything-goes situation.***

And I don't think Mary Whitehouse or anyone else particularly wants their nose in your business.

MEMORY MEMO

I feel I have to write about the state of Amiga software, to be frank, it's a real pain. I am a student, I earn £50 a week from a part-time job. I cannot afford to waste my money on bad, expensive software.



• Dungeon Master on the Amiga: Why should it need 1 meg? (see *Memory memo*)

The final straw for me was hearing, and reading that *Dungeon Master* needs 1 meg of memory. Why? You said in your review of the game that it was more or less a straight conversion from the ST. If so, then why the need for an extra 512k?

Double the Amiga's memory, that's an extra £100 odd to play a game that fits into other machines' standard 512k. It's really pathetic. It makes the Amiga look stupid, and makes me feel sick at the thought that I'll have to keep expanding an already capable machine, just to stop myself being left behind. People do more with the Spectrum's 48k than they have done with the Amiga's 512k. How on earth *Afterburner* was got into a Spectrum with 48k I'll never know, so why not the Amiga with *Dungeon Master*? 512k is a lot of memory. Programmers are getting lazy; to ask the users to spend extra on memory just to play a game is not fair. The Amiga is supposed to be a step forward in home computing, which surely is why it is fitted with some fantastic custom chips, and 512k of memory.

I don't want to be forced into piracy, that will make the situation worse, but I'm sure companies can reduce their prices to the same as ST software. You said yourself in issue 10 that Commodore was the second largest computer supplier, next to IBM. Surely then this indicates a large enough market to allow for price reductions in software. I hope so. I don't want to have to feel I wasted £400 on a machine that's going to be badly supported.
N Turner, Aylesbury, Bucks.

● ***And of course you're right; there's no reason why Dungeon Master couldn't have been better converted for the 512K Amiga – other than laziness. Odd, because you'd think that in the end less copies would be sold. Not everyone can afford the memory upgrade.***

AMIGA UB40?

I would like to contribute to your hacking-piracy debate from a different perspective. I am an unemployed Amiga 500 owner, who has never either bought or been given an item of pirated software, and I would not know where to start hacking a piece of software.

Looking through all the computer publications including your excellent magazine one cannot help but be excited and amazed by all the games of such quality and depth that are released at this time of the year. As these games are £20 – £30 each (in some cases even more) this can become extremely expensive.

My point is that those who are out of work (like me) or on low incomes cannot help but be tempted to buy or accept a game from a friend or commercial pirate at a cheap price. I consider myself to be an honest person, but I would find it very difficult to refuse a cheap pirated copy of a game.

Perhaps the law of supply and demand applies here. If those that cannot afford to buy full price software did not exist then the commercial pirate would not exist, and the hobbyist cracker could carry on as before without harming anybody.

In conclusion then it seems that this problem is a much more fundamental one that afflicts our society as a whole.
A J Bremer, Great Yarmouth, Norfolk.

● ***There are a few points here. The first, which we are bound to say, is that pirating of software is evil and not justified under any circumstances, that if you condone it because someone is unemployed then you may as well condone stealing, etc. etc.***

But if one of your friends was unemployed and wanted to 'borrow' your word processing software that they couldn't afford so they could write job application letters (clearly vital), you'd be hard pushed to say no. Then you extend it to games (vital again to while away the long hours in the afternoon) and it becomes difficult to draw the line. Having principles is fine, but when you're unemployed it makes you rather more pragmatic.

It seems the real problem isn't the price of software so much as the fact that you can't afford it at the moment. I'm not an economist but I suspect the long-term solution is not to bring the price of software down, but to improve everyone's spending power. Two equally glib replies to you would be a) if you can't afford the software, go and get a job and b) if you can't afford the software, the Government should get you a job. Neither of those would be any practical help to you or anyone else though.

What about a similar scheme for the unemployed to the one for students, whereby you can borrow money from the bank to buy a machine and/or a bundle of software, and pay off just the interest until you get a job when you pay the loan back in instalments?

With suitable software (word processors, programming languages et al.) you could learn marketable skills and make your job applications too, or perhaps use your micro to earn money in some other way. And once you do, you'll be able to afford any game you like. Unless you're a computer journalist, of course, in which case you won't have any spare time to play them anyway.

PSION LANGUAGE

At last a magazine for everybody. It's great! But not perfect. How about a column for Psion organiser users?
Chris Birch, Sutton, North Yorkshire

● ***Sure! And Z88s and Einsteins and Orics and Dragon 32s and PETs and Lynxes and... No, you have to draw the line somewhere, unfortunately. Otherwise you'd have columns for machines like the MSX.***

PCW FILE: LAST WRITES

I see there was a piece in your news pages last issue about the PCW File International User Group, on page 6.

I'm actually head of the group, not David Axford as you said, and decided to close it down due to financial difficulties. David will continue the magazine on a section of the British Osbourne Owners Group.

I have enclosed details about how the group intends to carry on with Bob Ellis offering free public domain software to anyone that wants it.
Chris Bryant, Seaton, Devon

● ***It's a shame the newsletter had to close as it was one of the better fanzines around. PCW owners can continue to get free PD software, as Chris mentions, for a minimum copying fee of £2 per disc. A catalogue of the 29 discs can be had by sending a blank formatted disc to 'Rowan', 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW. Chris assures everyone that any outstanding debts will be paid off in time.***

PCW owners can get a special bundle of 14 back issues of PCW File for £13.95 – nearly 400 pages of information! Cheques to 11 Havenview Rd, Seaton, Devon EX12 2PF.

THE HAPPY RELEASE

I would love to complain about something but I'm not going to – yet. *Express* is a great mag and seems like *ACE* should have been.

But look at the release schedule page – not exactly well informed are you? Looking through Acorn magazine, I find eight imminent releases for the Archimedes (games) and even more for the Beeb and Electron. Most Archie owners would also buy an Acorn mag so this is only a minor grumble. Some extra Acorn/ Beeb coverage wouldn't go amiss though.
Andrew Williams, Neath, West Glam

● ***There are bound to be some smaller companies releasing games which only a machine-specific mag would know about. Also such mags tend to be monthly, and their definition of 'imminent' may be 'in the next five weeks or so' rather than our 'expected at the time of publication', ie. in the next seven days, thus making their lists look bigger.***

Prepare to be deluged by letters of protest from ACE readers! Fans will be pleased to know that the disgruntled software buyer on our cover is ACE's Andy Smith.

ONLY AS OLD AS THE MACHINE YOU FEEL

I wonder if I am your oldest reader? I have a two-year old CPC6128 which I use for word processing and even for playing a few games. At the age of seventy-two I have become a convert to computing, having never touched one in my life before. Although I am retired I still never seem to have the time to do everything I want on my machine.

My next buy will be a 16-bit machine, and I have my eye on the Atari ST (also my great-grandson is interested in MIDI).

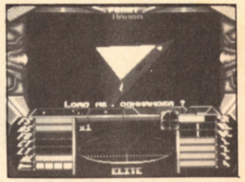
I hope to learn programming by the time I am 75, as I intend to go on a world cruise then!
'Old George', Darlaston, West Midlands

PET SHOP BOY

If you can remember the 8K Commodore PET (the title of which, incidentally, sparked the trend for silly acronyms – PET apparently represented "Personal Electronic Transactor!") when it was being offered as first prize in a competition by a major breakfast cereal manufacturer ("the machine that every housewife has dreamed of...helps you budget, stores recipes, controls your home, etc etc"), and if you can remember gazing in awe at a TRS-80 mark one in Tandy's window before going home to your half-soldered UK101, then you're probably as old as I am (depressing, isn't it).

After the argument about which was better, the TRS-80 with its nasty plastic case and cheap monitor, or the PET with integral dodgy cassette player and toy keyboard, the following years saw endless identical arguments between owners of rival companies' equipment that far exceeded the feelings of, say, rival car owners.

Haven't things changed! The arguments, once fairly civilised and based on comparative appraisal of technical differences, have degenerated into straightforward slanging matches. I was therefore amused to see that the annual Christmas rush has produced massive sales of the Spectrum and especially the Commodore 64. The former is hopelessly outperformed by modern 16-bit devices, and the latter still retains most of the original Commodore Basic designed for the PET all those years ago. I would like to think that these machines are selling only partly because the others are too expensive, but mainly because an awful lot of people aren't interested in state-of-the-art and just want a machine that delivers the goods in terms of entertainment and value for money.



• Elite: Old yes, but obsolete...? (see *Pet shop boy*)

Sadly, even older computer games sometimes come in for unwarranted criticism. In "Amiga Blit" Jason Holborn took time to pick holes in *Elite* simply because it was not "innovative", compared to *Starglider 11*. Yet the gameplay of the latter is decidedly old hat and comprises the simplest of adventure scenarios – collect various items, reach a target, kill it, end of adventure.

Please, why not judge gameplay as a priority, and consider graphical presentation simply in terms of how much (or little) it contributes to the overall atmosphere? After all, *Elite* was/is widely regarded as a fine game in its own right, and I don't believe that *Scrabble* or *Monopoly* would be condemned simply because the layouts weren't innovative ("Sorry, Waddingtons, but it's time to move on...?")

I wouldn't wish to imply that only old is beautiful; as an ST owner myself I could hardly do that. But in the quest for excellence both in software and hardware, not everyone wants to be right behind the cutting edge of technology if previously praiseworthy standards are to be disdained simply by virtue of age. Old is not necessarily obsolete, as I tell myself every morning whilst looking in the mirror.

P.S. The PET was better than the TRS-80.
Chris Osborne, Lowestoft, Suffolk

● ***Awful puns in computing go back further than the PET: in the 1950s Lyons, the Tea People, were the first business to use a computer. They called it Lyons Electronic Office, or LEO, har har.***

Despite the increasingly hi-tech and automated nature of cameras, for example, you still can't take a better picture than was possible with a pre-war Leica; though today's hatchbacks are more comfortable and economical than the Morris 1000 was, they're no better for just getting from A to B; although the TVs you buy now are superior to the tiny black and white jobs of the sixties, the programs are no better. Out with Network 7! Bring back Bill and Ben!

BEYOND OUR KEN

I am not normally given to writing to magazines, but the letters in issue 10 from Ken Hardacre, whose Commodore PC1 failed on the day of purchase, prompted me into action.

Under the Sale of Goods Act 1979 and goods sold in the course of business must be of 'merchantable quality'. This is defined as being fit for the purpose for which they were intended.

Clearly, in Mr Hardacre's case his Commodore PC1 was not of merchantable quality because you wouldn't expect any product to fail on the day of purchase, provided it was used in accordance with instructions.

In cases such as this the claim rests with the retailer who should have refunded Mr Hardacre's money straight away. Of course Mr Hardacre could have accepted a new machine if that was his desire but in law he was only entitled to a refund.

Again the Sale of Goods Act 1979 states that goods sold by description – as all mail order goods inevitably are – must correspond with that description, or once again, the purchaser is entitled to a refund.

Your comment that the retailer may have many satisfied customers is, to some extent, reasonable but future customers should have a right to know that they are running a risk in purchasing an expensive item from this firm; though hopefully having lost one County Court case they will be wiser in future. A wronged customer should not have to resort to such measures to gain that to which he is legally entitled.
Robert Pugh, Cardiff, S Glamorgan

RESTORE SOME ORDER

I feel that Mr Hardacre's experiences with Lan computer systems and the Commodore PC1 were just bad luck. I do not know that details of the case but would like to share my experiences with your readers to balance things.

In the past I have ordered, by mail, many items ranging from a spare printer ribbon to a Spectrum, a PCW 9512, a Sanyo PC and Panasonic printers. I have never received any goods 'next day' as promised and always there has been some problem with the goods themselves.

You think this might put me off buying by mail order for ever;but no. Last October I saw Lan's advert for the Commodore PC1. I phoned them many times with questions, as I did Commodore. Both were very helpful and able to answer my questions quickly and fully.

I rang Lan on the afternoon of October 25th and placed my order. The person on the phone said 'thanks for your order, you should receive this tomorrow'. Pull the other one, I thought.

Next morning, just after nine, sure enough it arrived. Since then it has been used five to six days a week and up to nine hours at a time; it works perfectly.

I can imagine no better value than this – £307.85 including VAT and postage. For my money I got the system unit, a hi-res monitor, keyboard, MSDOS 3.2, GW BASIC, ABLE-ONE (wordprocessor/ spreadsheet/ database/ graphics/ comms/ spelling checker etc.) – worth £99 and so easy to use.

In the end it must be the luck of the draw. This time Mr Hardacre lost and I – for once – won!
MA Newport-Ball, Telford, Shropshire

THE THIRD REICH MAIL ORDER CO.

Referring to issue 10 "Bring out Skeletons", I totally agree with Ken Hardacre's letter and think you should produce an article on disreputable computer firms with County Court judgements against them.

If you or I had a County Court judgement against us you would find it impossible to get credit and have therefore had one bad action causing you five years of misery. Many databases would hold the information upon your credit worthiness, and if they are incorrect you have little hope of correcting them even with the Data Protection Act helping you. You state "just because a company has had a County Court judgement against it in one case doesn't mean that all its dealings are suspect". Bullshit! That's like saying that just because Hitler murdered millions of people doesn't mean he was not a nice person. He was a cruel, heartless animal. If man will treat one person with contempt do you think they will not do it to another.

It's time the computer press looked after its readers and not its advertisers. We are the people who pay everybody's salary in the computer industry and related businesses, and we demand to know who we are dealing with.

Would you buy a used car from Arthur Daley? Not on your nelly! Well Done Ken.
G Holt, Doncaster.

● ***Comparing a software house that mislays your order to a despot who tried to annihilate an entire race seems a bit excessive; I can think of few mail order companies that have invaded Poland recently.***

We aim to look after our readers by giving them unbiased reviews of software, by bringing them news about the computer scene, by providing interesting features and so on, all at a reasonable price. We don't print stuff just because the advertisers want us to, and that way you can be reasonably sure of what you read. We're not a consumer watchdog and don't feel we would be doing anything particularly constructive by running an article criticising specific companies for specific things, other than satisfying a few people's sense of revenge.

And no, I wouldn't buy a used car from Arthur Daley either, because he's a fictional character.

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How to be a smart consumer

Buying a computer or software? Everyone wants your money: mail order houses, High Street retailers, street traders, even people selling their Christmas presents in the classified ads...

The vast majority of dealers are reliable and professional, but how do you avoid the cowboys? And what do you do when things go wrong? Rik Haynes investigates the dos and don'ts of computer consumerism...

Buying a piece of software should be like buying a record or CD: you pick what you want, pay your money and take your goodies home to enjoy. But in practice it's never like that. For a start, you have a choice between sources: should you order cheaply from a mail order house you can't be sure will be there after they've cashed your cheque, or stick with your High Street store, which may not know the first thing about your machine? And what do you do when your disk doesn't work, the program is useless or you don't even receive what you ordered? Being a smart computer user isn't enough – you need to be a smart consumer too.

Perhaps the best way to be a smart consumer is to find out as much as possible about the product before you attempt to purchase it. This means reading all the computer magazines which might review it, or include it in their 'best buys' section. Word of mouth can be a good guide too – maybe some of your friends have heard or seen what you're after.

The idea is to give yourself an informed and unbiased opinion on the product before you're introduced to all the sales hype. The more you know about the product, the better you can judge its value, weaknesses and strengths. And the final decision must be as to whether you really want or need it, and this requires a reasonable amount of thought, especially if it's an expensive item.

Before deciding on the source of purchase, look around – a superior product at a more desirable price might just be round the corner. When talking to a trader, don't be afraid to ask questions, even if you feel they sound stupid.

Whenever possible, try to use the product before you buy. It may say in the advert that it's "easy and intuitive to use" or that it has "stunning graphics" but the best judge of that will be yourself. Ask for a demonstration in the shop, or if possible find someone you know who owns it. This is the acid test, and if you're dissatisfied with any aspect of it, then think it over before you hand over your money.

Method of payment is also an important factor. For instance, if you pay by credit card you not only have the benefit of being able to pay the amount back up to a month later, but when purchasing a single item costing over £100 you may be able to claim your money back from the credit card company if you have any difficulties with the trader. This is particularly useful if the trader goes out of business. On the other hand, some traders will give a discount if you pay by cash.

Multiple high-street retailer

As computer products have evolved through the years, they've become more of a mainstream purchase like a video, Compact Disc player, etc. So where better to buy a computer product than from your local branch of a well known multiple high-street retailer? But wait, computer products aren't that mainstream: they're complex products that manage to acquire huge amounts of information, thus requiring a salesperson with a high degree of knowledge about the subject. Surely not the same salesperson who also sells the washing machines, personal stereos and blank videos?

So it's unfair to expect any great before- or after-sales support in the form of detailed information about your purchase. What you can expect is an excellent service when returning faulty items, as multiples have to preserve a high level of customer service in order to survive. Going back and asking how to set tabs on your word processor or how to get to level 36 on the game will be a waste of time, but if your disk is faulty they'll give you another straight off the shelf.

Prices will normally be recommended retail prices – or just below – so you won't get many bargains either. Overall, multiples are a just fast,

☞

convenient way of purchasing computer products – some even have salespeople that actually know a little bit about computing. If you're lucky!

Independent retailer

The second type of outlet – your local computer specialist in the Yellow Pages – can be differentiated from the High Street chain store by it lack of washing machines and plethora of pot plants. The advantages of shopping in an independent retailer can mainly be summed up in one word: experience. It's very unusual to find an independent retailer who doesn't know at least a little bit about your particular computer, however obscure, and its associated range of software and peripherals.

This is the place to go if you want the latest software release, or some up-to-date information, or indeed buy your computer. Most offer informed after-sales support provided by a usually very knowledgeable and enthusiastic salesperson.

The drawback, is of course, the cost of this service – with product prices likely to be highest out of all the other types of outlet. Though sometimes if you're lucky, you can discover the exception that proves this rule.

Mail order retailer

Mail order advertisements appear frequently in most computer magazines, presenting a wide choice of hardware and software at reasonable prices – quite often a lot cheaper than shop prices. Buying computer products by post gives you the chance to compare prices easily and get the very best deal.

Unfortunately despite the many legitimate mail order companies providing an excellent service, there are a few less reputable firms who'll take your money but won't dispatch your ordered goods on time, or at all.

When buying goods by post, it's a good idea to:

- Use the most recent advertisement – mail-order companies constantly update their product range and prices.
- Never send cash by post – use a cheque, postal order or credit card. When paying by cheque write your name and address on the back.
- Use recorded delivery if your order entails a large sum of money.
- Include your name and address in any correspondence.
- Keep a copy of your order and the advert.
- Make a note of the date you send it.

and probably most important

- Phone the company beforehand to confirm it has the product in stock, that it is what you want and that the price is as quoted in the advert. This gives you a chance to weigh it up: if the company never answers the phone or is permanently engaged you can try someone else.

A company that's been advertising regularly for years will be pretty reliable, or it wouldn't still be in business.

Goods bought through the post are covered by rules one and two of the consumers legal rights, i.e. goods must be of "merchantable quality" and "as described". Also if you set a delivery date (or if the advert states one, such as 28 days) when you order the goods, and that date isn't met, you can cancel your order and ask for a refund.

For further information you can obtain the free Office of Fair Trading leaflet, *Buying by post*, from your local consumer adviser or many public libraries.

Street market retailer

Despite their frequent claims to the contrary, street market retailers are bound by consumers' legal rights and should therefore provide one of the cheapest ways of purchasing a computer product. The trouble lies in making the average market trader uphold their obligations if the item purchased is faulty. If they do get too many complaints it's easier for them to move on to another area than it is for a shop trader.

But bargains can be found – if you're willing to take the risk. Although demonstrations of the desired software title or peripheral can be difficult, if not impossible – for obvious reasons. Fine for picking a few old budget games, sure, but if you buy a second-hand ST you have to accept the consequences!

Private sale

Purchasing computer products second-hand in a private sale can yield some of the best bargains around. As long as you do business with an honourable person.

When purchasing goods privately – perhaps from a friend, or more likely from a classified advertisement in a computer magazine such as *ACE* or a local newspaper – only rule two of the consumer rights applies. The item sold must be "as described" and if it proves to be faulty, your rights will depend on what you and the seller said to each other before purchase, with the important factors being what you were told about the item's condition and value. If you buy a six-year-old Spectrum described only as "a bargain" and it packs in shortly after you get it home, that's hard luck. If on the other hand someone sells you an ST described as "mint, as new" and it packs in you would be more justified in taking it back to the seller.

When purchasing an item through a private sale, it's usually better to restrict yourself to your local area if you can. The reasons for this are three-fold: you're able to inspect the item before purchase, you can take a friend along to act as a witness (this is a distinct advantage when proving it really was described as you claim it was) and finally, you'll be able to return the item more easily if it proves to be faulty.

Watching the defectives

Obviously there are going to be times when you purchase an item – whether it's the computer itself, a peripheral or a piece of software – and it proves to be in some way defective. In such cases, provided the fault breaks one of the three basic rules of consumer rights, the correct procedure for making a complaint is:

- Stop using the item.
- Write down some details concerning the faulty item, such as the date and place of purchase, the actual problem (as clearly as possible), if the item is a piece of software include the model of your computer, etc. This information will be useful to you and the seller in any future dealings.
- Inform the seller as soon as possible.

If you order goods from a mail order company and they don't arrive, all you can really do is keep phoning and writing. Even large, reputable mail order places can misplace orders because of the sheer volume of business.

If you visit the seller:

- Take the item back to the seller.
- Take a receipt or proof of purchase.
- Ask for the manager or owner.
- Be polite, but firm.
- Stay calm! Getting angry doesn't help anybody.

If you telephone the seller:

- Write down what you want to say beforehand.
- Have receipts, guarantees or other proof of purchase on hand.
- Find out the name of the person you speak to.
- Write down the date and time of the call, and what is said.
- Be polite, but firm.
- Stay calm!

If you write to the seller:

- Keep copies of any correspondence.
- Do not use any original receipts, guarantees or other proof of purchase – send photocopies instead.
- You could use recorded delivery, to prove the seller received your letter.

Please note that you're not entitled to anything if you:

- Change your mind about wanting the item.
- Examined the item when you purchased it and missed any obvious faults.
- Were warned about the items faults.
- Created any damage yourself.
- Received the item as a present (the original purchaser must claim).

When the seller is part of a multiple-chain of shops and the local branch cannot help, try contacting the managing director at the head office.

If any of the above attempts fail you can obtain free advice from your local consumer advisers at:

- **Trading Standards** or **Consumer Protection** Departments which investigate false or misleading descriptions or prices of goods.
- **Citizens Advice Bureau** who can help with the more general aspects of consumer problems.

As a last resort, you can sue for the refund of your money or for compensation in a county court. If your claim is for under £500 your case will usually be settled by a private and informal arbitration hearing, with you unlikely to pay your opponent's legal costs even if you lose. The fee you pay depends on the size of your claim and application forms can be obtained from your county court office. For more details contact your local consumer adviser – the Citizen's Advice Bureau will be in your Yellow Pages or Thomson directory. ●

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Office of Fair Trading
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You can buy by post from a catalogue or an advert in a newspaper or a magazine. Depending on the way they were advertised you can receive goods 'on approval' (you get them before you have to pay) or pay for them in advance. This leaflet tells you what to look out for and what to do if things go wrong.

Do you know your rights?

"I know my rights!" is a phrase that everyone resorts to at one time or another, but not many people actually do know the specifics of their rights.

Consumer legal rights cover any goods bought from a trader. The term trader includes high-street retailer, independent retailer, street market retailer or mail order retailer. Goods purchased in a sale are also included.

The law has three basic rules:

- Goods must be of "merchantable quality". Goods must not be broken or damaged and must work properly. For example, if an Amiga computer works perfectly, but its mouse doesn't move left, the goods are not of merchantable quality. With software this can be a tricky problem to interpret. For instance, if you buy a word processor which claims to be able to print letters but only prints draft quality, you could claim that for its price and given general standards of word processing software that it was not of 'merchantable quality', because it didn't do the job it was meant to do.
- Goods must be "as described". If the package, display sign or seller describes any of the features of an item that is sold, then that item must contain those features. If you're told a computer comes with a joystick then the seller must supply a joystick, and if an accounts package claims to be able to do VAT then it must be able to do that.
- Goods must be "fit for any particular purpose" Your particular purpose must be made known to the seller prior to any purchase. If you tell the seller you want an art package that produces circles, then any art package the seller provides should indeed produce circles.

If there's a fault with anything you buy, you should inform the seller at once because it's the seller – not the manufacturer – who must sort out your complaint.

If any of the three rules of the law have been broken you can:

- Reject the goods and get your money back.

or

- Get a cash payment to make up the difference between what you paid and the reduced value of the faulty goods.

or

- If you both agree, you may receive a replacement or free repair.

Exactly what you're entitled to depends on the seriousness of the fault and the speed at which you inform the seller. In practice any reputable dealer will give you either a replacement or your money back so long as your protest is reasonable.

Sometimes goods come with a guarantee. This doesn't affect your legal rights but can offer some form of extra protection. But treat any guarantee with caution as it may not be enforceable in law. See your local consumer adviser if you have any queries about a particular guarantee.

Please note that the above information concern consumer's legal rights in England and Wales – Scotland and Northern Ireland may have slightly different regulations. For further information you can obtain the following Office of Fair Trading leaflets (free of charge) from your local consumer adviser or various public libraries:

How to put things right (England and Wales).
Dear Shopper in Scotland.
Dear Shopper in Northern Ireland

Case history of a Wally

- Wally sees a mail-order advert for the Atari ST in an old mag he found and decides it's time to buy a computer.

(The company is now in financial difficulties and none of the magazines will take ads from them any more. If Wally had read some more up-to-date magazines, he might have guessed this.)

- Wally sends the cash to the mail order company using normal post.

(Never send cash by post. Use a cheque, postal order or credit card. Use recorded delivery for large sums of money.)

- Wally continually phones the mail order company from the day after the order was placed.

(You must give the company a reasonable time to deliver the goods, such as 28 days.)

- After three months of phoning the mail order company (which now mysteriously doesn't answer its phone) the magazine where he saw the advert (which has no control over what's happened) and the Post Office (who deny any knowledge of the cash being sent), Wally decides to buy an ST elsewhere.

That night Wally meets a friendly bloke in the local pub who just happens to have an ST for sale. Wally arranges to buy the ST and collects it from the pub on the following night. When he gets the ST home, it doesn't work. Oddly enough, Wally never sees the bloke in the pub again.

(Buying goods in a private sale is a tricky business, and if possible, you should at least try the product before purchase. You should definitely know the name and address of the seller.)

- Wally's third attempt at purchasing a computer goes a little more smoothly when he buys an ST from the local branch of a multiple high-street store. The trouble is he didn't bother to find out what software is, and so spends many an hour looking at a blank screen.

(Try to find out as much as you can about a product before you purchase it – read some computer magazines, or talk to any computer-owning friends.)

- Wally goes out and buys some software for the Atari. Unfortunately it's for the Atari 800XL and therefore won't work on the Atari ST.

(When purchasing software find out the exact model of the computer it's supposed to be for.)

- Wally goes back to the software seller who generously agrees to exchange the software for an ST title. Wally chooses a game and takes it home, doesn't like it and takes it back to the seller demanding a full refund and compensation. A heated argument ensues with Wally threatening physical violence. The seller phones the police who then arrive and escort Wally from the premises.

(If you change you mind about a product you're not entitled to any replacement, refund or compensation. Getting angry doesn't solve a problem, it just helps to escalate it into a bigger one.)

- Wally puts the computer on top of the wardrobe and buys a satellite dish, neglecting to purchase the decoder needed to view the scrambled programmes.

(What a Wally!)

True stories

Every computer shop assistant has their favourite tale of irate customers who complain about things explained on page 1 of the manual. A few genuine examples:

"How will I get the paint off my TV screen?"
Customer inquiring about the Photon Paint package included in the Amiga bundle.

"That's why the noise was so loud."
Customer discovering that you need to use the lead to connect the cassette deck to the computer.

"When it said double-sided disk drive I thought it meant you could put two disks in at the same time."
Customer returning an Atari ST with two disks jammed into the disk drive.

"Sorry my son's already got this game, can I exchange it for something else?"
Customer presents the original packaged game and a pirated copy.

"When it said floppy disk, I thought I had to dismantle the outer-casing."
Customer holding a demolished 3.5 inch disk.

"Is it easy to get pirated games on it?"
Customer questioning the credentials of the Commodore Amiga's software base.

Back To Basics

Jason Holborn, a hardened veteran of Amiga programming, tries out two new offerings for BASIC programmers

Replacement BASIC languages were inevitable when the Atari ST was first released. The machine came with a lousy version of BASIC that was slow, inflexible, had numerous bugs and was, above all, a real pain to use. The Amiga, on the other hand, offers an implementation that is everything that *Atari BASIC* isn't; it's fast, fairly flexible and an absolute joy to use. Would any Amiga owner therefore want to buy another BASIC? HiSoft and GFA Systemtechnik think so.

HiSoft BASIC

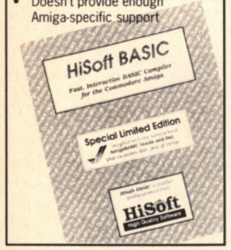
Amiga ● £79.95dk

Hisoft ● The Old School, Greenfield, Bedford MK45 5DE. Tel: (0525) 718181

HiSoft is probably better known to Amiga owners for its excellent assembler packages *DevPac* and, more recently, *DevPac version 2. DevPac* is in many people's minds *the* assembly language development system on the Amiga and is used extensively by top programmers such as Jez San, author of the smash hit *StarGlider 2*.

HIGHLIGHTS
- Includes powerful compiler
- Easy to use
- Well-written manual
- Fully compatible with *AmigaBASIC*

DRAWBACKS
- Doesn't provide enough Amiga-specific support



Features

To describe HiSoft's offering as just another *AmigaBASIC* compiler with a few extras wouldn't be doing the product justice. Rather than take the safe option of producing a straight compiler, HiSoft has opted to extend the language further, adding on a whole range of extra features while still managing to retain complete compatibility with *AmigaBASIC*.

The high degree of compatibility with existing BASICs on the PC, ST and Amiga will probably be one of the main selling points of the product. After all, for many learning *AmigaBASIC* was a hard enough task as it was – therefore why should you have to forget all that you've learned and start from scratch? As well as being able to handle *AmigaBASIC*, *HiSoft BASIC* will also compile *QuickBASIC* programs from the PC with minimal alterations needing to be made.

The *HiSoft BASIC* language is a more up to date version of BASIC that lends itself well to structured, or modular programming as it's now referred to. As well as the usual WHILE...WEND construct, additional structured statements include the likes of DO...LOOP and the SELECT...CASE construct.

A Straight BASIC is simple enough to produce, but how well does *HiSoft BASIC* manage to tap the extra power of the Amiga? Unfortunately, this is an area where both fail to hit the mark. Amiga-specific commands are sparse, and it would have been nice to have seen full IFF support from within the package itself. However, HiSoft does intend to bundle an extra software package called *Extend* with all copies sold after the current offer has expired. *Extend* is a library of routines that includes full support for IFF and a whole host of other Amiga specific functions.

The Compiler

Undoubtedly the greatest attraction for many of *HiSoft BASIC* will be the included compiler. How you use the compiler is up to you. You can either run it from the CLI, the Workbench or even from within the Editor itself.

Two types of output can be generated by the compiler; stand-alone or shared library programs. Stand alone programs are, obviously, programs that can be run without having to have access to any other external files, but shared library programs will be very much a new concept to *AmigaBASIC* programmers. A shared library program requires access to a runtime library that must exist within the LIBS: directory of your boot disk. Shared Library programs do however have the advantage of being considerably smaller than stand alone programs.

Documentation

As with all HiSoft products, the manual is clearly written and informative and an example of how a computer manual should really be written. Whether you're a complete beginner or a seasoned techie, the *HiSoft BASIC* manual contains all information you will require, organised in a clear and logical manner.

✪ ✪ ✪ ✪

GFA BASIC

Amiga ● £64.95dk

Microdeal ● Box 68, St Austell, Cornwall PL25 4YB. Tel: (0726) 68020

Anyone used to using an Atari ST will be no stranger to *GFA BASIC*. On the ST, *GFA* can probably claim to be the most popular of all the alternative BASICs available. Many commercial ST packages have been written in the language because of its speed and complexity. With the release of *Amiga GFA*, is the product set to achieve the same popularity on the ST's rival?

Features

GFA BASIC has always been regarded as a powerful BASIC, and the Amiga implementation certainly isn't going to change that view. Unfortunately, this power is gained at a price: compatibility. *GFA* is quite unashamedly almost completely incompatible with all other BASICs including *AmigaBASIC*. While this was OK on the ST (most users probably didn't bother with *Atari BASIC* anyway), the situation is very different on the Amiga. *AmigaBASIC* is very usable, and many will regret having to forget what they've already learned.

Where support for structured programming is concerned, it's hard to fault *GFA*. The language is probably better than HiSoft's product in this department, as it includes all constructs found in *HiSoft BASIC* and a few more besides.

Amiga-specific commands at first seem extensive, until you realise that there isn't really a great deal there that *AmigaBASIC* doesn't already offer.

The final niggly point is the number of bugs that exist. Using the ALERT command, I was actually able to crash *GFA* every time! This isn't really acceptable for a language that is hoping to be seen as a serious development tool.

Why buy another BASIC?

AmigaBASIC is one of the best implementations of BASIC you're likely to find on any micro, so why would you want to consider paying for another BASIC when Commodore's offering seems to do the job perfectly adequately?

The main reason that most people would consider purchasing another BASIC is so that they can produce stand alone programs, that is, programs that do not need to be loaded into an interpreter to be run. And if that compiler happens to also extends the language in some way and is faster than the existing BASIC, well all the better. *HiSoft BASIC* includes an excellent compiler that will allow you to do just that but what about *GFA*? It hasn't got a compiler and it isn't even *AmigaBASIC*-compatible. Why buy *GFA* in that case? Er, you tell me...

The Compiler

As if incompatibility wasn't enough, the worst is still to come, as *GFA BASIC* doesn't even include a compiler. A run time system is included but this is 85K in size. To be fair, though, GFA is working on a compiler for version 3. But as a compiler doesn't even exist for the Atari version, Amiga owners can expect to have to wait a considerable amount of time for this to arrive. This of course will also mean more expense; probably the same price as the interpreter itself, if past pricing on the Atari is anything to go by.

Documentation

The *GFA* manual comes ring-bound in a rather professional looking box folder. The only real fault with the manual is the amount of information present; quite a few pages are less than half-full of text, and even what is there does tend to be rather sketchy at times.

✪ ✪

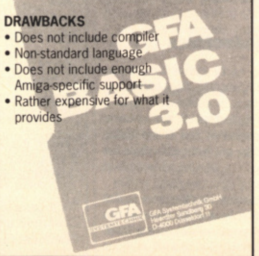
Conclusion

So which should you go for? *HiSoft* or *GFA*? Both are fast and highly structured languages, and you could most certainly work comfortably with either. Unfortunately, *GFA* just doesn't seem to quite fit in the Amiga market in the same way as it did with the Atari; it's non-standard, contains numerous bugs and doesn't as yet possess a compiler.

HiSoft BASIC, on the other hand, has got a great deal going for it. It's fast, highly portable, includes a compiler and with *Extend*, the soon to be bundled add-on library, it is quite simply the best implementation of BASIC yet seen on the Amiga.

HIGHLIGHTS
- Extensive structured programming facilities
- Powerful editor

DRAWBACKS
- Does not include compiler
- Non-standard language
- Does not include enough Amiga-specific support
- Rather expensive for what it provides



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APOLONIA SOFTWARE -THE COMPANY THAT CARES

The Man of War

How one man fought his way from concentration camp to multi-national: Gyorgi Merghan describes the remarkable life of Jack Tramiel, founder of Commodore, now head of rival Atari...

The Jack Tramiel Story is the the stuff of the American Dream born of a nightmare. By lying amid the corpses to escape detection, he survived the unspeakable horrors of the Auschwitz concentration camp. Precious few outlived Auschwitz. Fewer still became the multi-millionaire bosses of global concerns such as Commodore and then Atari.

Having lost all of his immediate family, he was smuggled out of Nazi Germany, taken to the States and subsequently adopted by a Polish Jew. There, he started a small typewriter repair shop in the Bronx, moonlighting as a taxi driver to bring in more cash. Typewriters became computers, selling became manufacturing and via the PET, the Vic-20 and the C64, Commodore became a billion dollar firm.

For their reductive purposes, this sounds like classic rags-to-riches fodder for TV mini-series creators. Certainly, it puts to shame the nearest UK equivalent, the Alan Sugar tale of beetroot-boiling Hackney boy turned computer king. Yet unfortunately for the putative TV adulators, Tramiel is a far from genial man. By turns gruff, rude, forceful and then playfully, brashly humorous, his philosophy is "business is war" – and his constant verbal salvoes show he means business.

Though rarely short of a word or five, there is one episode that Tramiel has never commented upon publicly: his remarkable departure from Commodore. Within days of the internal company celebrations about hitting one billion dollar sales, on January 13th 1984 – Friday the thirteenth – he abruptly resigned in the middle of a board meeting. That meeting was still in progress in New York as Tramiel was jetting out to California and apparently to retirement.

Versions differ as versions will, but the most credible explanation for the extraordinary resignation revolves around his plans to found a Tramiel dynasty. There were strong rumours that Sam, son number one, would come in as president. Then there was Gary, with a financial role being carved out for him. Completing the Tramiel trio was Leonard, who would have some sort of senior software function. For Commodore, it was a question of like father, but not really liking the sons. So Tramiel pere, never one to compromise, departed.

• Jack Tramiel – the Godfather-like face is not inappropriate. He believes in keeping it in the family; the Tramiel juniors are all set up in key positions in Atari

At 56, after a tough life and with the tidy post-Commodore sum of $100 million tucked in his back pocket, Tramiel tried to play the role of the affluent American travelling the world. But a three month cruise left him bored, the active man cast adrift in the torpor of relaxing for the rest of his life.

Warner tell you a story

Suddenly, in true Hollywood tradition, up popped salvation in the form of Warner Brothers, desperately seeking suitors for its near-bankrupt subsidiary Atari. The firm was losing money like there was no today, let alone tomorrow. To lose one dollar is unfortunate, but to be losing $538.6 million of them in a year really is quite an achievement.

But from Tramiel's point of view, this would have been simply irrelevant, had it not been for one over-riding factor: MSX. He had no plans to re-enter the computer world unless he felt he had a specific role to play. The Japanese threat provided just such a function. Like many others in early '84, Tramiel was worried at the prospect of a dozen leading Japanese consumer electronics firms uniting with Microsoft to produce a cheap computer standard. Sure, it's been clear for more than three years that the MSX revolution failed to happen, but in '84 the world looked very different. There was a need to fight the good fight, and when it comes to fighting few can match Tramiel.

And so he bought the ailing Atari via a typically complicated, hard-nosed agreement which in effect meant he had paid Warners $450 million in IOUs. This included some $300 million debts owing to Atari. He subsequently managed not to settle some Warners' payments on time – and then renegotiated them downwards in any case. The Jack attack is so strident that he can persuade perfectly sensible businessmen to be bounced into perfectly incomprehensible deals. On much the same basis, he talks such a good battle that he can also persuade legions of computer journalists that this or that remarkable technological breakthrough really will be available next month.

The ironies of Tramiel at the helm of Atari abound. It had been forced so close to the edge by the collapse of the video games industry, which in turn had been precipitated by the exceptionally aggressive sales and marketing practices adopted by the then Tramiel-led Commodore. Having savaged the beast, Tramiel was thus to be cast as the resuscitator.

Further, his sons did indeed all join the new company, with Sam brandishing the brightest torch as president of his father's firm. Far from suffering as Commodore had predicted, the advent of the sons has coincided with the prosperity of the company. Also central to the renaissance of Atari was the part played by former Commodore staff. In all, some 40-odd moved over in the first few months following the Tramiel swoop, the majority of them in senior positions. Since then, the poaching has continued: the UK team, for example, is spattered with former Commodore people from the managing

☞

Revealing facts

Throughout Atari, Tramiel has established an ersatz openness. This means that senior staff are at liberty to discuss new products at length with the outside world. So where Amstrad adopts an almost regal policy of neither confirming nor denying anything, and where Commodore denies pretty much everything until it eventually happens, Atari folk are ever so slightly prone to revealing all far too early.

Hence the ST Plus has been discussed for months now, with no sign of the new machine. Likewise the ST console, and to a lesser extent the ST portable. The policy is then backed by Atari's abiding ability to preview, demonstrate, give first glimpses of, unveil and finally launch any new produce several times over. The CD Rom device, for example, has been paraded for the first time at so many shows that it's now regarded as one of the more perverse highlights on the journos' calendar.

It may all ramp up the interest in all things Atari, but the lengthy product trails are irritating to users hearing that another Next Big Thing is just around the corner.

director right the way down to the official spokesman.

They helped fill the chasms created by Tramiel's savage staff-chopping. "I love cutting waste," he said at the time, "and if it's people who are the waste, that's tough." Within days, 1,050 American staff out of 1,200 were pushed out. Worldwide, in less than a month over 5,000 employees became just 1,500. With Tramiel, the bite often somehow manages to be even worse than the bark.

Where there's a will

Jack Tramiel talks tough like other people sweat – and its a toughness he applies to his sons as well, for all the talk of dynasty-building. When it appeared that sibling rivalry would prevent the younger Tramiels from working together, father Jack found a typical solution. He changed his will to prompt them to co-operate if they were to share in his riches.

Puttin' on the writs

If that was the style, the substance of the man was to back a machine called the ST. To the mildly cynical, it was not a wholly remote possibility that the ST owed more to Commodore's Amiga than it really should have done. After all, the Commodorian great white hope was the Amiga, Tramiel had left the firm under a considerable cloud (taking with him sundry relevant staff), and the two computers do indeed have one or two similarities. Inevitably, the writs flew.

Though subsequently and secretly settled, the antipathy above and beyond the call of commercial duty still dominates discussion of the firms. Atari takes a perverse delight in passing on all the supposed failings of Commodore, as though Tramiel himself is on a personal crusade against the firm. Commodore implausibly tries to ignore the rivalry out of existence. As a strategy, it has the singular advantage of appearing novel; it doesn't work, at any rate.

Whatever, over the years Tramiel has proved to be a cute operator, turning Atari round to sizeable profitability. Commodore has been outflanked on numerous occasions and been made to look like the honest plodder of the two, at least in the UK. Where once Commodore led the way, it now coat-tails Atari via such matters as transputer workstations, bundling deals and – possibly – consoles. The two are locked together in a danse macabre, with Tramiel believing that he's now calling the tune.

Tramiel spiel

"Business is like sex. You have to be involved."
"It turns me on any time I can take a product costing thousands of dollars and I can sell it for hundreds. I think it's good that I can serve society in that way and it satisfies my ego."
"The Japanese are coming, so we will become the Japanese."
"I believe people are smart, not dumb. If you can give Rolls Royces at the prices of Volkswagens, I'm sure people will buy them."
"There are three principles in business: hard work, hard work and hard work."
"Business is war."

Being such a singular man, it's difficult to predict Jack Tramiel's next major moves. On product, there is some likelihood that he will indeed deliver at consumerable prices the machines that have filled up the column inches in computer publications. Essentially, the strategy is the ST, variations on the ST (the Plus, the console), areas beyond the ST (the Transputer workstation) – as well the occasional, almost grudging nod in the direction of PCs.

• Like father, like son? Sam Tramiel looks lined up to be Atari's next boss...

And personally? The dynasty is in place, with a clear path of succession through Sam. But with Tramiel, even at this stage of his life, you never really know what's going to come next... ●

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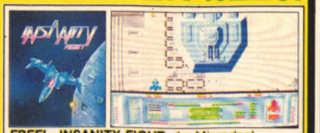

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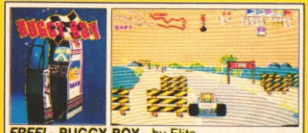

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What's your line?

What's so good about comms? What can you do with a modem that ordinary mortals can't? Peter Worlock continues his guide to comms

For most of us a telephone is an obvious instrument for communication since so many people in this country and abroad also have phones. There's no question about the telephone's usefulness.

Similarly, in business a fax machine is another obviously useful communicator because many other businesses have fax machines.

Modems are a different proposition because computer users are still a minority of the population, and modem users are very much a minority among computer users. Computers and modems have a far more specialised range of uses in communication.

Bite the bulletin

Accessing electronic bulletin boards is by far the most common application for modem users. As their name suggests, bulletin boards are the electronic equivalent of the school or office notice board, or the collection of postcards in your newsagent or local post office.

They are a useful and entertaining way of getting in touch with other computer users. They can act as clearing houses of news, rumours, technical information and moral support when you're struggling with some seemingly intractable problem.

I got your number

If you've got a modem and software, the following are some of the better known services you can try. Many bulletin boards carry directories of other BBs around the country and abroad so once you've logged onto one you can usually find your way into others.

Check your manuals for setting up your software for connection to bulletin boards but if in any doubt try 8 data bits, no parity, 1 stop bit. If that doesn't work, experiment!

General interest

CIX • 01 399 5252 • 24hrs • V21, V22, V23, V22bis

Gnome at Home • 01 888 8894 • 24hrs • V23 viewdata

Amiga

01 For Amiga • 01 377 1358 • Mon-Fri: 6pm-10am • Weekends: 24hrs • V21 and V23

TABBS Amiga BBS • 0533 550893 • Mon-Fri: 6pm-9am • Sun: 24hrs • V21, V22, V23

Atari ST

ACS BBS • 01 591 6687 • 10pm-9am • V21 and V23

Carshalton Atari BB • 01 773 0408 • 24hrs • V21 and V23

CP/M

CP/M User Group • 0753 868196 • 24hrs • V21, V22, V23, V22bis

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TUG II • 021 444 1484 • 24hrs • V21 and V23

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Most bulletin boards are amateur – in the genuine sense of the word – although the quality can range from poor to supremely professional. It depends on both the dedication of the sysop (the system operator) and the number of regular users.

Many boards are operated by individuals who do it for the fun and from a sense of enthusiasm, others are attached to larger organisations – computer user groups, public domain and shareware libraries, local government ITECs, and colleges and universities.

The content of the boards varies but most have similar set-ups: the bulletin board aspect itself, where you can leave messages and read other people's contributions; or news "pages" edited by the sysop or a contributor; if the system supports graphics there may be a demonstration region consisting of contributed graphics screens; and SIGs.

Have a SIG

SIGs are areas of the bulletin board devoted to one subject. You can usually find SIGs for specific computers such as Amiga or Atari ST, or general subjects like laptop computing, and there are also SIGs for various programming languages like C, Pascal, Modula-2 or the "artificial intelligence" languages of Lisp and Prolog.

Other SIGs might have nothing to do with computers. For some reason computer owners seem to read more science fiction than the average human, so you often find SF SIGs with book and film reviews and the occasional celebrity interview.

On the bigger bulletin boards you'll find most of life is represented: Lonely Hearts sections, sport, religion, flying, boating, pop music...whatever you want, somebody somewhere will have it.

Downloadsasoftware

This is the bit where you actually get something concrete in return for your on-going investment in British Telecom.

Download areas are libraries of public domain and shareware software. You can take copies of any that take your fancy provided your comms software is capable of handling the transfer (the process of downloading).

This is also where a high-speed modem begins to repay your initial outlay – a 2,400 bps modem will save you a fortune in phone bills over a 300 or even a 1,200 bps model, especially if you're taking large programs.

A word of warning is also due on this point. Although some – perhaps even most – sysops do a good job of vetting programs before putting them into the download libraries, viruses can lurk here so check out any downloaded program before you run it. It's pointless and petty to blame the sysop if you fall victim to a virus: it's your computer, your risk, your responsibility.

Commercial break

Although by far the greatest number of on-line services are the bulletin boards, there are a handful of commercial systems.

Foremost among these is Prestel, a mammoth collection of on-line services from a host of information providers. Once connected to Prestel you can get regularly updated news bulletins, plus special news like City prices, travel news and sports results.

• "Multi-user games can be the quickest way to bankruptcy."

Prestel is also used by a number of professional organisations, notably travel agents and airlines, so you can browse for a holiday or check up on cheap air tickets.

However, the main area of interest for computer users is Micronet, a subsidiary part of Prestel dedicated to personal computers. Originally an on-line magazine – with news, reviews and computer-related features – Micronet has developed into much more and now offers an enormous range of services, including the Chatline in which you can "talk" to other subscribers as well as occasional celebrity guests, and several multi-user games (see below).

For details on subscriptions to Micronet write to Telemap Group, Durrant House, 8 Herbal Hill, London EC1 5EJ. If you have a 1200/75 bps modem and viewdata software you can access a demonstration of Micronet by dialing 021 618 1111 then enter the ID 4444444444 (ten 4s) and the password 4444.

The major rival to Prestel/Micronet is Compunet, originally for owners of Commodore 8-bit machines but since expanded to cater for Amiga and Atari ST owners. Compunet offers a broadly similar range of features as Micronet but is renowned for its contributed areas including music and graphic demos and downloadable software. There is also a large library of downloadable software for the C64, with Amiga and ST sections catching up steadily. For more information on Compunet call 01 997 2591.

A third commercial service is CIX. Unlike Micronet and Compunet which retain the feel of an on-line magazine, CIX is more like an on-line user group meeting.

Instead of being split into SIGs, CIX is divided into conferences which callers can join. You then take part in a discussion on whatever topic is going – maybe advanced features of the 80386 processor, or the seemingly endless "C vs Modula-2" argument, or the variations and near-clones of Unix available for the Atari ST.

CIX appears to be heavily used by industry insiders – professional programmers, software publishers, hardware designers, technical journalists – so if you have a voracious appetite for the hard-core, high-tech subjects CIX could be a good choice.

Bunch of MUGs

Multi-user games have become one of the best reasons for going on-line. Unfortunately, they can be the quickest way to bankruptcy.

The orginal was MUD – the Multi-User Dungeon – in which you played a hero/heroine (sex-swap patients welcome) in a more-or-less normal adventure game. What was definitely abnormal about MUD was that the characters you encountered during your travels were not computer-controlled but were the alter egos of other real people scattered about the country. That's the "multi-user" part of the title.

MUD has now been joined by several newcomers. In addition to the adventure format, a common variation – typified by Compunet's Federation – is the trade-your-way-to-untold-riches-and-conquer-the-galaxy format. Again, your opponents are not figments of the computer's imagination but live, cunning, conniving, ruthless people. Just like you.

The appeal of MUGs is that they pit you against other people which makes for a tougher and more realistic game. The aspect of MUGs which is definitely not appealing is the cost, since every minute you're playing, BT is racking up the profits.

HEALTH WARNING: Playing MUGs can seriously damage your bank account. Quarterly phone bills of £300 to £500 are not unheard of.

Email: the superior species?

There are now some half a dozen services offering ways of sending and receiving messages from your computer, and within each of these there are further sub-divisions including electronic mail (or e-mail) itself, telex and fax.

The telex and fax services are simple variations of the non-computer equivalents. E-mail is the computerised version of sending someone a letter: you write it, post it via the on-line service of your choice, and it is sent to the appropriate mailbox.

The catch is that, once the novelty has worn off, many e-mail subscribers may go for days without checking their mailboxes for incoming messages so you might as well have used a 19p stamp and sent it the old-fashioned way.

E-mail isn't cheap either. There are subscription charges ranging from £3 to £13 per month, connection charges (while you're composing and transmitting your missive) of around 10p per minute, plus your normal (or abnormal) telephone bill. If you're the recipient of e-mail messages you also have to pay for storage on the main system.

But perhaps the main drawback to e-mail is the fact that so few people are equipped for it and of those that are, a large number are computer industry insiders – journalists, manufacturers and publishers, retailers, and so on.

For further information on e-mail and related services call the relevant suppliers (voice lines):

One-to-One	**01 351 2468**
BT Gold	**0800 200700**
Datalinx	**0422 70112**
Mercury	**01 528 2500**
Microlink	**0625 878888**

Technobabble

A weekly assault on computer jargon

Comms part II

Upload/Download
These directional terms refer to the process of moving data – usually programs but also including messages – between your computer and the host. Everything happens in reference to the host system, so when you send something to the host you're "uploading"; "downloading" is simply traffic in the other direction.

Carrier
Not a variety of bird to be used when your modem breaks. A carrier is part of the signal transmitted by a modem which allows another modem to recognise that it is talking to one of its own and not some irate householder screaming "Wrong number" into the phone.

BABT
The British Approvals Board for Telecommunications (no relation to British Telecom) is the body responsible for making sure that the gadgets dreamt up by the computer industry aren't going to destroy the nation's telephone network. When it's satisfied it issues the equipment with a sticker bearing a green circle. Equipment not approved carries a red triangle.

Unapproved kit is illegal, although not in the normal sense of the word. The manufacturer is legally entitled to make it, the dealer is legally entitled to sell it, and you are legally entitled to own it. It's just illegal to use it and if you're caught – "Your ass is history," as Crockett and Tubbs might express it.

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● The arrival of *Life and Death* at our offices this week did prove to inject a certain humour into what can only be described as a fairly average bunch of releases. The smooth-scroll screeching of *Super-Hang On* came out tops with Hitman's loyalties divided between the kick-em-to-death-em-up, *Dragon Ninja*, and the total-everything-in- sight-em-up, *Hybris*. Needless to say we didn't let him anywhere near *Life and Death*.

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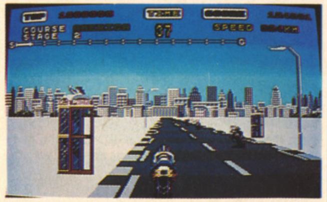

• Turbo, or not turbo – either way, even Mr Sheene himself would have trouble cleaning up on this polished product

The Amiga version of the great ST transworld racer hits the tarmac and bids for pole-position in the road wars. So there's only two wheels, but it shifts faster than the most souped-up Ferrari sim you've ever seen. At a blistering rate of 17 frames per second, actually.

● GAMEPLAY

There are four sections to the game – Beginner, Junior, Senior and Expert – represented by a total of 48 stages of track situated in Africa, Asia, America and Europe respectively.

Bonus time at the end of each stage helps prolong the fun by adding another thirty seconds to the fifty you start out with, but the difficulty is carefully tweaked so you'll keep coming back for more. A turbo can be cut in by hitting the right mouse button, and providing you're going flat out this supercharges you right up to around 200 mph. At this speed you can barely control the bike, never mind dodge the other riders you compete against. A lot of the time is consequently spent building up your speed again after being rammed from behind or spiralling headlong into roadside obstacles. It's all a race against the clock – the key is in becoming familiar with the courses.

● GRAPHICS AND SOUND

The impression of speed, bike animation and coloured backgrounds are all phenomenal – cutting in the turbo delivers some of the fastest screen updates yet seen on an Amiga. There are now three levels of scrolling background compared to the ST version's two. Sound is very impressive too, being sampled straight from the arcade version. Hit the tarmac and you hear the Doppler effect of other rider's bikes zooming past in stereo!

● OTHER VERSIONS

Apart from the CPC outing, which features poor sound and drab colour, all other versions are well above average, with the ST one coming out tops. The Amiga version is marginally faster and noticeably smoother than its 16-bit cousin and of course scores much higher in the audio department. This is no straight conversion!

● EXPRESS VERDICT

A superior racing game which is streaks ahead of the competition in terms of audio visuals, highly addictive and marred only by the fact that it's possibly too difficult. But then when did difficulty deter anyone?

✪✪✪✪ **Andy Storer**

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CPC • £9.95cs
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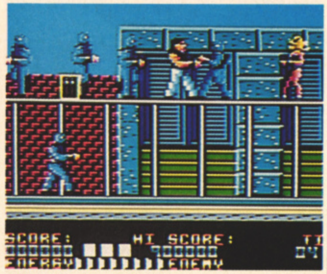


• Plenty of on-screen sprite action

***Dragon Ninja* is a conversion of the popular Data East coin-op, and is another in the long line of martial-arts kick-em-to-death-em-ups.**

● GAMEPLAY

Dragon Ninja lets you take on the role of a street-wise hardman travelling through a horizontally-scrolling cityscape wiping out any opponents that dare confront you.

Using a variety of kicks, punches and any weapons you can pick up, you'll discover and fight a myriad of martial-arts morons including shiraken-throwing Ninja assassins, vicious guard dogs and acrobatic women warriors. At the end of each level you'll meet a tougher form of scum known as a Ninja Master, who'll require an extra dose of beating-up before any further progression into the game is possible.

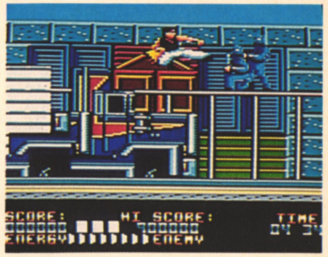
● GRAPHICS AND SOUND

Perhaps *Dragon Ninja*'s most striking visual element is the amount of on-screen action at any one time, which amazingly doesn't detract from the overall speed. The sprites are varied, exuberantly coloured and defined and expertly animated – and are complemented by diverse and proficient backdrops.

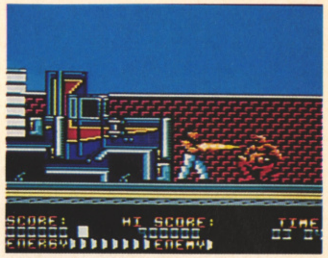
Audio contains functional sound-effects and a suitably oriental soundtrack assisted by a New Wave-influenced drumbeat.

● OTHER VERSIONS

We've seen the early pre-productions of the other versions of *Dragon Ninja* and they're looking very promising. We're looking forward to getting our hands on the finished articles.



• Don't get hit by the truck



• Confronting one of the Ninja Masters

● EXPRESS VERDICT

Dragon Ninja is a credible and faithful conversion of the first-rate coin-op, and continues Ocean's magnificent run of excellent releases like *Operation Wolf*, *Robocop* and *Batman*.

Certainly one of the most good-looking and playable beat-em-ups on the CPC so far, *Dragon Ninja* would make a welcome addition to any budding Ninja's software collection.

✪✪✪✪ **Rik Haynes**

HYBRIS

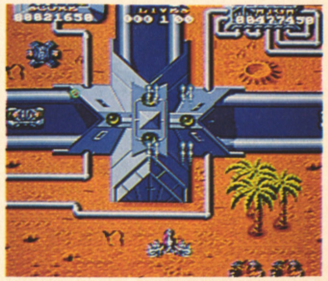
DISCOVERY SOFTWARE INTERNATIONAL, USA

Amiga • £24.99dk
No other versions known

***Hybris* is a vertically-scrolling shoot-em-up similar to the brilliant coin-op *Terra Cresta*, and is imported by Gainstar, Unit 1, Rear of 7 Wellington Road, Sandhurst, Surrey GU17 8AW. Tel: (0252) 877431**

● GAMEPLAY

Taking control of a mean-machine space fighter, your mission is to seek out a missing colony. Easy enough,



• Coming up to a ground emplacement, guns a-blasting

☞

you might think, but first you'll have to destroy a multitude of alien spacecraft and ground emplacements all wishing to finish your mission of mercy as quickly as possible.

It's probably a good job that you can pick up some extra weaponry along the way, helping you to blast these killjoys in their tracks.

● GRAPHICS AND SOUND

Hybris visuals are of a high quality throughout, comprising appealing backdrops backed up by an assortment of somewhat conventional, but nevertheless praiseworthy sprite designs.

Audio is also engaging, with dramatic sound spot effects accompanied by an upbeat and infuriatingly catchy soundtrack.

● OTHER VERSIONS

No details of any other versions of *Hybris* are currently available.

● EXPRESS VERDICT

Hybris is another great release from Discovery Software – the maker of the excellent *Sword of Sodan* – and is definitely the most playable Amiga vertically-scrolling shoot-em-up we've seen to date. Gameplay has the right balance between difficulty and actually allowing progression through the many different levels. A great "discovery" (*You're fired again – Ed*), *Hybris* is certainly worth checking out.

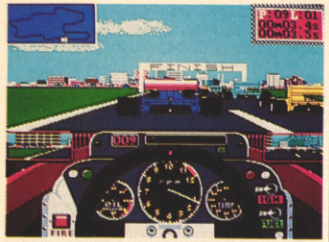
✪ ✪ ✪ ✪

Rik Haynes

GRAND PRIX CIRCUIT

ACCOLADE

PC • £24.95dk
Due out on C64



• "And there goes the unmistakeable figure of Alain Mansell, or is it Nigel Piquet, Murray?"

After releasing *Ferrari Formula One* and *Test Drive*, Accolade return to the track for a mean turbo blast and look set to establish themselves as the premier PC Prixers

● GAMEPLAY

You have a range of cars at your disposal to take you around eight international circuits including Monaco, Hockenheim and Silverstone while competing against nine other drivers. You can choose to drive for McLaren, Williams and Ferrari and attempt to handle their corresponding vehicles – A Honda Turbo, A V8 Renault and a V12 Ferrari. Couple their performance differences with the five available skill levels and you have a degree of control from the almost auto-pilot relaxation of the lowest level to the hypersensitive top end. Races are also divided into practice laps, single races and the Championship Circuit, which pits you against the season's best competitors. The overall result is not so much a serious sim as a mix of fun and thrills.

● GRAPHICS AND SOUND

It's quite fast for a PC racing game, which is surprising since most rely on simulating action to a degree where slow screen updates are disguised by the wealth of detail. Here, though, colour and animation are well presented and make *Grand Prix Circuit* look great, especially in EGA mode.

● OTHER VERSIONS

It's due out on C64 some time soon, though we haven't seen any advance copies.

● EXPRESS VERDICT

Nice to see a PC game that actually shifts at a pace for once, and where you're not waiting for the track ahead of you to unfold by the second. Whilst it's by no means a Grand Prix simulator, it's good fun and worth a look for any PC owner wanting a turbo-charged game to show off their machine's spec.

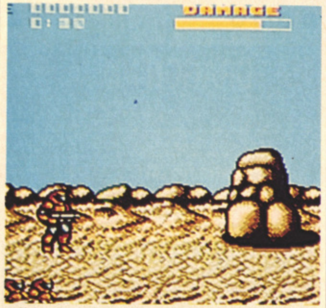
✪ ✪ ✪

Andy Storer

SOLDIER OF LIGHT

ACE/SOFTEK

Amiga • £24.99dk
Also on Spec, C64, ST
Under development on CPC



• Xain all alone in the desert, with no-one around to annihilate

***Soldier of Light* is a conversion of the cult Taito coin-op, which featured spectacular and original visuals matched by uncompromisingly tough gameplay.**

● GAMEPLAY

SOL is a horizontally-scrolling shoot-em-up with you controlling Xain, a intergalactic soldier equipped with exoskeleton armour and jet-boots, sent out to destroy all alien forces in the galaxy.

You first decide which planet you want to clean up next. Then its down to business blasting anything that moves, ranging from the standard alien foot-soldier to a huge dinosaur-like creature. Luckily you'll find extra armaments pods along the way which increase your firepower when collected. And you'll need 'em.

● GRAPHICS AND SOUND

The most stunning feature of *SOL* is its fantastic backdrops, which are not only beautifully drawn but also expertly coloured. They add greatly to the atmosphere of the game and present an accurate impression of the coin-op's graphics. Sprites are also nicely defined, being both varied in design and size.

Audio is far less impressive, with only tolerable sound effects uplifted to a small degree by the funky soundtrack – although even this gets irritating after a while.

OTHER VERSIONS

Spectrum *SOL* was the first version to be released, back in Spring '88, and is a reasonable conversion. The C64 version is a quite playable, with inviting audio-visuals slightly marred by the limited play area. ST *SOL* has very disappointing audio quality, but contains identical visuals to the Amiga version. No release date has been set for the CPC version.

● EXPRESS VERDICT

SOL is quite a decent shoot-em-up with bright, colourful and attractive visuals underlining a reasonable blast. A slight criticism can be levied at the fact that *SOL* contains less taxing gameplay than the coin-op parent, thus casting a doubt over its lasting interest. A touch overpriced, but still worth a look.

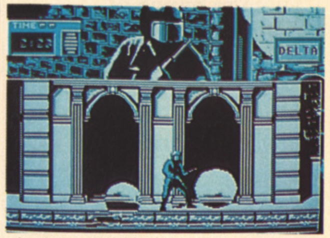
✪ ✪ ✪

Rik Haynes

HOSTAGES

INFOGRAMES

PC • £24.95dk
Also on ST and Amiga



• Just about to start dodging the searchlights and salvos

Infogrames' latest PC release sees anti-terrorism making its way to the micro as you command an elite French SAS squad in a bid to storm an embassy and rescue captives.

● GAMEPLAY

You have to place three marksmen at safe vantage points around an embassy in preparation for a further three to be sent in by helicopter. Guiding them by joystick, you dodge the terrorist searchlights and machine gun fire as they scan the perimeter. Once in place, you flick to a sniper's eye view of the Embassy windows and attempt to take out the occasional figure you might sight behind the glass. You then take the role of the chopper squad and abseil down and through a window.

Once inside you view proceedings from behind the nozzle of a machine-gun. A small map indicates your position and that of any one of the 14 terrorists in the building. From then on in it's down to moving from room to room and attempting to cut in half anyone you come across before they do the same to you. As the opposition are pretty hot on the ammo too, you'll be switching to your second and third backups to flush out all floors and find and rescue the hostages.

● GRAPHICS AND SOUND

The graphics aren't bad for a PC running VGA, with windowed foregrounds of animated action overlaid on detailed backgrounds. Inside the Embassy relatively fast screen updates have the effect of compounding the tension. Sound effects feature gunfire and the groans of dying men – what else would you expect from a game that deals with a death squad going about its everyday business?

● OTHER VERSIONS

Both the ST and Amiga versions look and sound great and are streets ahead of this PC release, but then that's only to be expected.

● EXPRESS VERDICT

Quite a good outing in the PC shoot-out stakes, though maybe a little dubious in the contents department. Worth a look if you want to feel the sharp end of law enforcement cut with tension and what we can only assume to be an element of edgy realism.

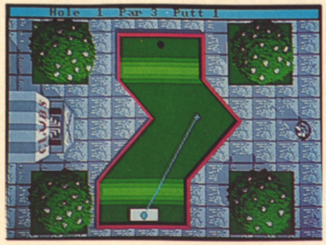
✪ ✪ ✪

Andy Storer

MINI GOLF

MAGIC BYTES/GREMLIN

ST • £19.99dk
Also on C64, Amiga



• Selecting the angle for the next shot

***Mini Golf* is yet another golf game, this time brought to us by German-based Magic Bytes and distributed in this country by Gremlin.**

● GAMEPLAY

You have to guide your golf ball through courses of varying difficulty, choosing the right angle to pocket the ball in as few moves as possible, using the walls to reflect the ball around the many obstacles that occur.

The view of the action is seen from above, but there's an option to view the course from other angles before you make any final decisions on your tactics for that particular hole.

● GRAPHICS AND SOUND

Audio-visuals would have had to been really impressive to make this game stand up. It's unfortunate that they are, in fact, boring run-of-the-mill incarnations, and are certainly below the standard set by Access/US Gold's *Leaderboard*.

Mundane representations of the courses make this game look more like a game of pool or snooker and are matched by poor quality sound-effects.

● OTHER VERSIONS

The Amiga version is are similar in feel and audio-visuals to the ST version, albeit with small improvements in quality. The C64 version is okay, but still not good enough. There are no other versions planned.

● EXPRESS VERDICT

Mini-Golf is a reasonable concept totally ruined by poor implementation. It and just doesn't stack up against the popular *Leaderboard* series of golfing games. Stay clear of this release.

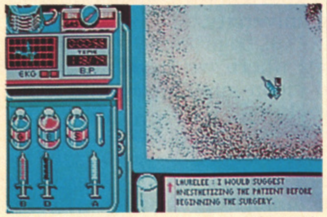
✪ ✪

Rik Haynes

LIFE AND DEATH

SOFTWARE TOOLWORKS

PC • £24.95dk
Also on Amiga



LAURELEE : I WOULD SUGGEST ANESTHETIZING THE PATIENT BEFORE BEGINNING THE SURGERY.

• Software Toolworks inject new humour into operating manuals

The purveyors of *Chessmaster 2000* certainly enjoy a good foray into the more esoteric realms of gaming and strategy. *Life and Death* finds you in the role of a surgeon asked to perform a number of operations.

● GAMEPLAY

After signing on as a doctor, your first job is to go from room to room diagnosing patients' conditions – most of them are suffering from abdominal pains of some kind. With your mouse you prod various areas of their stomachs and are met with groans and yelps as they register pain. You then decide whether to observe, operate, administer medication, X- ray or ultra-scan the patient. Scans reveal visual evidence of kidney stones or whatever, whilst the other options are met with a pop-up head surgeon who informs you of the success in diagnosis.

Obviously, though, you're dying to operate on someone, and sooner or later you enter the theatre and prepare to stick the knife in. Your victim's abdomen is exposed, you pump them full of drugs, clean them up a little, and go to work with a scalpel. It's at this point they usually die. Unless you're a medical student, you probably won't have the faintest idea what to do except read the manual. You'll leave the room and wheel in another. Half an hour later half of North America will be dead.

● GRAPHICS AND SOUND

Some of the animated sequences are incredibly primitive and slow, but then the game is really about interactive medical treatment, which doesn't normally happen at great speed in any case. Sound is pretty appalling too, with groans and death throes only barely distinguishable from the audio of the most unsociable of bodily emissions.

● OTHER VERSIONS

The Amiga version is by far the most gruesome of the range, with truly outrageously loud screams accompanying yet another botched op.

● EXPRESS VERDICT

Something of an oddity, of course. *Execution Simulator* might have been a better title, but if you're into human vivisection then this is the one for you. Of course, you may just be interested in medicine.

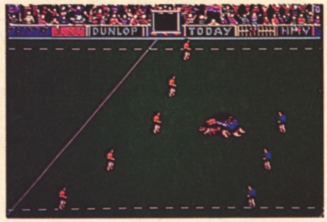
✪ ✪

Andy Storer

ADVANCED RUGBY SIMULATOR

CODE MASTERS

ST • £19.99dk
No other versions planned



• That multicoloured portuguese man-of-war in the centre of the pitch is in fact a scrummage...

No prizes for guessing what type of game *Advanced Rugby Simulator* is...

● GAMEPLAY

ARS follows the standard route of the "football"-type (sorry, rugby fans!) sports-simulation game.

During play you control a whole team, with the player under current control being highlighted by a cursor. The player's able to pass or kick in a somewhat subdued game of rugger. All the features of rugby are here, including conversions, scrummages and touch backs. There are also many options which allow you to tweak various attributes of the game, such as choosing one of a possible 17 team policies (the tactics the other players in your team adopt during the game).

The only really novel feature of *ARS* is the streaker who occasionally shows up!

● GRAPHICS AND SOUND

Visuals vary sharply from the competent between-game screens to the chronically undersized player sprites. The strange combination of scrolling, flip-screen and still screen just doesn't work very well, tending to disperse the flow of the action. If they had been better implemented and more attractive, the game would have been greatly improved.

Audio is the worst aspect of the game, without a single digitised grunt, groan or scream to be heard anywhere. Sound-effects are restricted to wave-like sounds which would be better off in a surfing simulator (*What, another Code Masters game? – Ed*).

● OTHER VERSIONS

Code Masters already has the budget title *International Rugby Simulator* for the Spectrum, C64 and CPC, but Amiga and PC versions of *ARS* are unlikely at the present time.

● EXPRESS VERDICT

Code Masters' preoccupation with "simulator" games can get tiring at times. What about programming a *proper* simulator, guys? Still, rugby fans wanting to recreate their favourite sport on the ST will probably enjoy *ARS*, but for other ST gamers there's not a lot here to keep you interested for long.

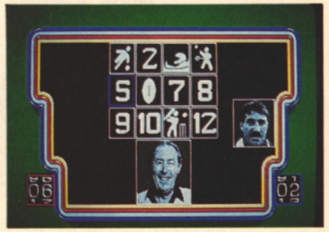
✪ ✪

Rik Haynes

A QUESTION OF SPORT

ELITE

ST • £19.99dk
Also on Amiga, PC, Spec, C64, CPC



• "Errr...extraordinary!" (If only it were)

REEEMAARKABLE! The most popular TV sports quiz ever, watched by 19 million viewers each week makes it to the monitor. Is this a) a reflection on the appalling competition, b) a reflection on the British public or c) a measure of David Coleman's role as a screen god of the eighties?

● GAMEPLAY

Yes, you lead your team through Coleman's masterfully stylistic touches in a game divided into six rounds of questions based on sports trivia. You can play against the computer, another player or with three players per team. The rounds feature four-option multiple choice questions from the picture board, mystery personality, home and away, what happens next, and quick fire – so the game follows exactly the same format as the series. Two points are awarded for correct answers. Running out of time or answering wrongly passes it over to the other team for one point. And...er...well, that's it! (fiddles with earpiece)

● GRAPHICS AND SOUND

The ST version is quite novel, in so far as its screen displays mix hi-res mode mono digitised pics of the players with the coloured surrounds of medium res. Screen updates are quick enough, but as with most quiz games the graphics are uninspiring. Sound is confined to the ridiculously insidious jingles and music of the TV programme.

● OTHER VERSIONS

The C64 version is okay in the graphics and sound department, with portraits replaced by hand-drawn renditions, and leaves the Spectrum's mostly unrecognisable efforts lurking somewhere in a blurred fog.

● EXPRESS VERDICT

UNREEEMAARKABLE! Possibly the most sporting aspect of the game would be to give it away to someone else. Preferably someone you don't like. Otherwise it's a question of waiting for another round of questions to load in and ask "What Happens Next?"

✪

Andy Storer

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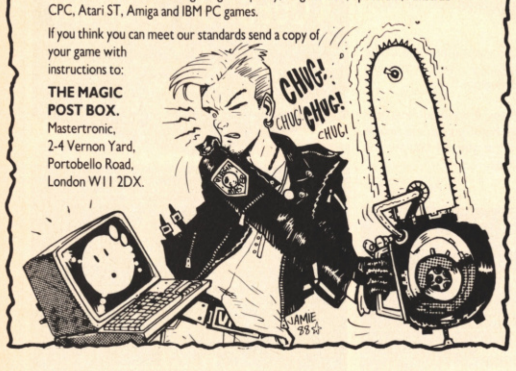
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CHUG!
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Battlechess	5.25	24.95	Out Now	Interplay/EA
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Crazy Cars II	5.25	24.99	End Feb	Titus
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Grand Prix Circuit	5.25	24.95	Out Now	Accolade/EA
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Puffy's Saga	5.25	19.99	Late Feb	Ubi Soft
Rack'em	5.25	24.95	Out Now	Accolade/EA
Skateball	3.5	19.99	Late Feb	Ubi Soft
Skateball	5.25	19.99	Late Feb	Ubi Soft
Speedball	3.5+5.25	24.99	Out Now	Image Works
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StarRay	3.5+5.25	24.95	Out Now	Logotron
Strikefleet	3.5	24.95	Out Now	Electronic Arts
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T.K.O.	5.25	24.95	Late Feb	Accolade/EA
The Bard's Tale II	3.5	24.95	Out Now	Electronic Arts
The Bard's Tale II	5.25	24.95	Out Now	Electronic Arts
The Train	5.25	24.95	Out Now	Accolade/EA
Times of Lore	5.25	24.95	Imminent	Microprose
War in Middle Earth	5.25	24.99	Mid Feb	Melbourne House
Wasteland	3.5+5.25	24.95	February 1	Electronic Arts
Zany Golf	3.5+5.25	24.95	Out Now	Electronic Arts

BBC

Football Director	D12.99	Out Now	CDS
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Captain Fizz	14.95	Out Now	Psygnosis/Psyclapse
Chaos Strikes Back	14.99	Mid Feb	Mirrorsoft/FTL
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Cosmic Pirate	19.99	February	Outlaw
Crazy Cars II	19.99	Out Now	Titus
Custodian	19.99	Mid Feb	Hewson
Dark Fusion	19.99	February 7	Gremlin
Dragonscape	19.95	February 16	Software Horizons
F-16 Combat Pilot	24.95	Early Feb	Digital Integration
F-16 Falcon	24.99	Out Now	Mirrorsoft
Federation Of Free Traders	29.99	January 31	Gremlin
Final Command	24.99	Late Feb	Ubi Soft
Freedom	19.95	Out Now	Coktel Vision
Fusion	24.95	Late Feb	Electronic Arts
Galactic Conqueror	19.95	Out Now	Titus
Galdregon's Domain	19.99	January 27	Pandora
Game Over II	24.95	Out Now	Dinamic
Gary Lineker's Hotshots	19.99	February 14	Gremlin
Hellbent	19.95	Out Now	Novagen
Helter Skelter	14.95	Out Now	Audiogenic
Hotball	24.95	Out Now	Satory
Incredible Shrinking Sphere	19.99	January 25	Electric Dreams
Iron Lord	24.99	Early Feb	Ubi Soft
Joan Of Arc	19.99	Out Now	U.S.Gold
Manhattan Dealers	19.95	Out Now	Silmarils
Night Hunter	19.99	Out Now	Ubi Soft
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Teenage Queen	19.95	Late Jan	Infogrames
The Munsters	19.99	Out Now	Again Again
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Track Suit Manager	19.99	Out Now	Again Again
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War in Middle Earth	24.99	Mid Feb	Melbourne House
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Icon Graphix 128	D17.95	Out Now	Audiogenic
Instant Recall	D19.95	Out Now	Supersoft
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Puffy's Saga	D14.99	Late Feb	Ubi Soft
Skate or Die	D14.95	Late Feb	Electronic Arts
Skateball	D14.99	Out Now	Ubi Soft
Technocop	D12.99	Out Now	Gremlin
The Archon Collection	D14.95	Out Now	Electronic Arts
The Munsters	D14.99	Out Now	Again Again

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Incredible Shrinking Sphere	T9.99	January 25	Electric Dreams
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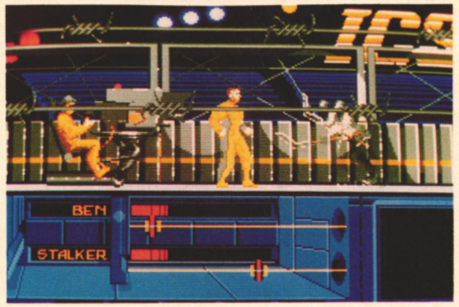
Up and gunning

Andy Storer kills time...and just about everything else he comes across

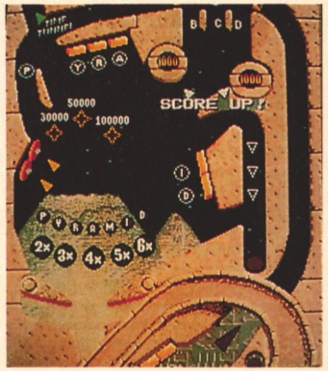


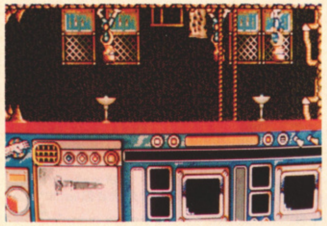
THE RUNNING MAN GRANDSLAM

A tie-in with the up and coming video release of the Schwarzenegger cult movie set in 2019, and revolving around your attempts to survive a TV game show. Watched live by millions, you fend off attacks from various psycho-nutters among the dungeons and caves below the studios. A five-level sideways scroller, *Running Man* will be available on all formats, and this Amiga screenshot shows off the best visuals of any version.

TIMESCANNER ELECTRIC DREAMS

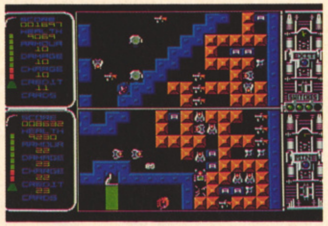
Another Sega arcade conversion, *Timescanner* consists of four split-screen levels – Volcano, Saquarra, Ruins and Final – and is a superior pinball sim featuring nudge and tilt, 6 flippers and up to 3 balls on-screen at any one time. As a special final bonus screen there's also a breakout game included. For all-format wizards the world over.





THUNDERBIRDS GRANDSLAM

Brains, Lady Penelope, Parker and their puny plastic puppet pals who pilot those pathetic polystyrene (*You're fired – Ed*)...er..the famous Tracey family feature in this 4-way scrolling graphic adventure as you guide them against the evil machinations of The Hood, their arch-enemy. Your aim is to cope with innumerable emergency situations whilst...okay I'll pick up my P45 on the way out.

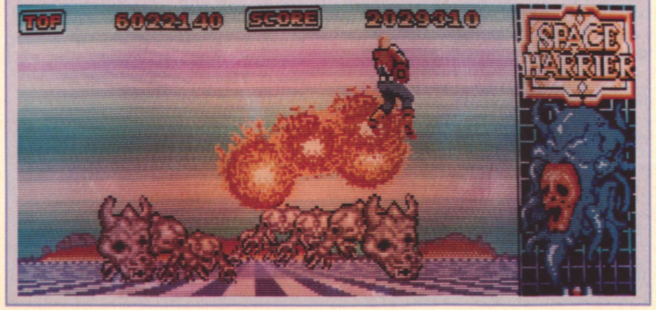


CAPTAIN FIZZ PSYCLAPSE

Out soon on ST and Amiga is this simultaneous 2-player shoot-em-up relying on collaborative effort from the Psygnosis stable. Here you're a member of the Queen's Cloned Highlanders and up against the verminous Blaster-Trons as you battle through 22 levels of split-screens which, whilst looking competent enough, don't appear to feature the usual Psygnosis hallmarks of rich detail and colour.

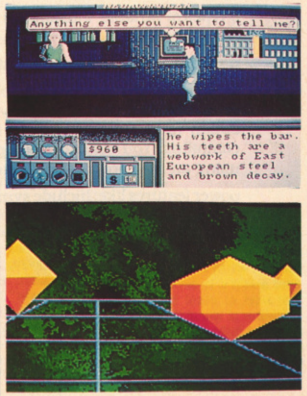
SPACE HARRIER 2 ELITE

After the great conversion of the original to the ST, comes the sequel, which comprises the other ten levels of the arcade fave. A tortuous fast-blast through surreal sc-fi landscapes, *Space Harrier 2* shifts at speeds not far off its fabulous coin-op parent. Out on the Amiga too this time.



NEUROMANCER INTERPLAY

Fresh from release on the C64 comes the sci-fi RPG Amiga version of Bill Gibson's Cyberpunk tour de force. Although the Amiga's spec could have just about handled the book's *Blade Runner* atmospherics, the graphics on show here don't look much more than a straight port. Which is a shame, since the medium of Cyberspace alone would provide a great opportunity to show off the Amiga's custom chips yet further. Hopefully the Devo music score will make some amends.



Anything else you want to tell me?

he wipes the bar.
His teeth are a
webwork of East
European steel
and brown decay.

HiSoft BASIC for the Amiga

HiSoft BASIC was first released on the Atari ST where it proved immensely popular bacause of its speed and ease of use. Now we have ported the system to the Amiga so that even more people can experience the excitement of this super-fast, compiled language.

HiSoft BASIC is a fully-integrated compiler and editor that makes it beautifully easy to convert all your AmigaBASIC programs into fast-running machine code; in fact, **HiSoft BASIC** is so simple and quick to use that you will soon find that you no longer need the AmigaBASIC interpreter at all, you can do everything you want with **HiSoft BASIC**.

Full support of the Amiga is included as standard with extensive window, screen and graphics commands. In the same way as the interpreter, Amiga libraries can also be accessed as if they were built-in statements allowing complete machine access.

HiSoft BASIC includes full MENU support, with event trapping and powerful sprite routines, using the OBJECT keywords.

Compiled programs can execute in their own window(s) or use the CLI window for minimum size. CLI-type programs may be easily written and made resident since they are fully re-entrant.

For larger programs and for those with strong editor preferences we also supply an editor-less compiler for traditional disk-to-disk compilation methods.

ABS AND APPEND AREA AREAFILL AS ASC ATN
BAR BASE BEEP BIN$ BLOAD BREAK BSAVE CALL
CALLS CASE CDBL CHAIN CHDIR CHR$ CINT CIRCLE
CLEAR CLNG CLOSE CLS COLLISION COLOR COMMAND$
COMMON CONST COS CSNG CSRLIN CVD CVI CVL
CVS CVSIEEE DATA DATE$ DECLARE DECR DEF DEFDBL
DEFINT DEFLNG DEFSNG DEFSTR DIM DO ELLIPSE ELSE
ELSEIF END EOF EQV ERASE ERL ERR ERROR
EXIT EXP FEXISTS FIELD FILES FIX FOR FRE
FUNCTION GET GOSUB GOTO HEX$ IF IMP INCR
INKEY$ INPUT INPUT$ INSTR INT KILL LBOUND LCASE$
LEFT$ LEN LET LIBRARY LINE LOC LOCAL LOCATE
LOF LOG LOG10 LOG2 LOOP LPOS LPRINT LSET
MENU MID$ MKD$ MKDIR MKI$ MKIEEE$ MKL$ MKS$
MOD MOUSE NAME NEXT NOT OBJECT.xx OCT$ OFF
ON OPEN OPTION OR OUTPUT PAINT PALETTE PATTERN
PCIRCLE PEEK PEEKB PEEKL PEEKW PELLIPSE POINT POKE
POKEB POKEL POKEW POS PRESET PRINT PSET PTAB
PUT RANDOM RANDOMIZE READ REDIM REM REMAINDER
REPEAT RESET RESTORE RESUME RETURN RIGHT$ RMDIR RND
RSET RUN SADD SAY SCREEN SCROLL SELECT SGN
SHARED SIN SLEEP SOUND SPACE$ SPC SQR STATIC
STEP STICK STOP STR$ STRIG STRING$ SUB SWAP
SYSTAB SYSTEM TAB TAN THEN TIME$ TIMER TO
TRANSLATE$ TROFF TRON UBOUND UCASE$ UNTIL USING
VAL VARPTR VARPTRS WAIT WAVE WEND WHILE WIDTH
WINDOW WRITE XOR

HiSoft BASIC - Reserved Words

HiSoft BASIC is a no-limits language; string variables may be up to 16Mbytes in length and there are no limits on array sizes either (subject to available memory). Code generated is fully 68010/020/030 compatible.

Compiled programs have no run-time overhead; all compiled programs share an Amiga library. which may be distributed with programs without charge. Compiled programs multi-task, of course, and as they all share the same library, memory usage and disk space is kept to a minimum. There is also an option to produce completely stand-alone programs which include only as much of the library as they need.

HiSoft BASIC - now BASIC programming on the Amiga has come of age.

- ✓ Compatible with Microsoft QuickBASIC 3 on the PC, Atari ST BASIC, AmigaBASIC and most other BASICs,
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- ✓ optional line numbers, lots of compiler and run-time options allowing tremendous flexibility both at compile & execution time,
- ✓ full recursion in sub-programs and functions plus local and global variables, arrays as parameters,
- ✓ 5 types of variable, integers, long integers, single- and double-precision floats and strings of any size,
- ✓ no limits; no program size limit and no variable size limits,
- ✓ interactive environment; invoke the compiler from the easy-to-use Intuition editor and all errors will be reported, in English, giving you the option to go straight back to the editor for correction or to carry on compiling. You can run your program from the editor so it's just like using an interpreter - but faster!
- ✓ power features like: include symbolic debug, exploit maths co-processors and much more.

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TECH TIPS

HELP!

New records

I am looking into computerising the membership records of a club of which I am secretary.

One area that concerns me is the Data Protection Act. Can you advise me where I might find details of the Act's requirements, and what I must do if I start putting people's names and addresses in a computer.

JB Cherry, Coalpit Heath, Avon

• The Data Protection Act specifically exempts data held by clubs provided that the club is not being run as a commercial business. So putting names, addresses and other club-related information on computer does not require you to register under the Act.

If you want further details try your local library which should have all the information you need.

HELP!

MSXplanation?

I have a Sanyo MPC 100 MSX computer and an Amstrad DMP 2000 printer. I bought a copy of Anglosoft's *Print-X-Press* on cassette some months ago and I've so far been unable to transfer the characters from the Designer or Compiler programs onto the Manuscript program for printing. Suggestions?

RJ Brett, Portsmouth

• I'm afraid I'll have to throw this one open to the MSX fraternity since I've never even heard of your problematic software. Any MSX-owning readers who have any help to offer on this subject should write to *Tech Tips*.

HELP!

MSXtra drive

May I congratulate you on an excellent magazine before I prompt you to answer my problem. Yes, I am another MSX owner who purchased a JVC HC10 a few months ago.

How does one attach a microdrive to the MSX? How much do they cost, where can I get one? And is it possible to use it for filing, financial planning and a keyboard instructor?

P A Gray, Carlisle, Cumbria

• Again I have to own up to a lack of expertise in matters MSX. However, by "microdrive" I assume you mean a 3.5" disk drive and not the dubious tape devices originated by Sinclair.

Most 3.5" drives sell for around £100 to £150. Whether you can attach one to your HC10 depends on whether it has a suitable interface (check your manual).

The only supplier of MSX goodies I have an address for is Nightdare, 11b Walnut Road, Chelston, Torquay, Devon. You could write to them and see what they have available. And again, if any MSX owners have specific information on this question, please let us know.

HELP!

Any port in...an ST?

I am on the verge of buying a computer system, in particular the 520 STFM which I feel is a very good buy.

But on approaching local stockists I can get no information on a user port (similar to the BBC's 6522 VIA), a device I laid down as one of the requirements of my new machine.

I would welcome any advice on the subject you can give me. If the ST does not qualify, is there another comparable machine?

M Hart, Irvine, Ayrshire

• Since you don't say what you want to use the port for it's difficult to be specific, but the ST has attracted extensive hardware support for storage, video and audio digitising, and most other standard peripherals.

The 520ST has nothing directly equivalent to the BBC Micro's user port although the cartridge port can be used to drive external devices (many audio digitisers use the cartridge port).

Potentially more useful would be the expansion bus built in to the Mega STs but they are considerably more expensive than the 520 or 1040 STs.

The Amiga has similar difficulties and you have to go to the 2000 series for a true expansion bus, the A500 being broadly similar to the 520ST in this respect.

Best of all for hardware expansion, real-time control, and so on are PCs which employ the well-supported PC expansion bus. Interface cards are readily available for analog/digital conversion, industrial control, IEEE 488 adaptors, and digital I/O.

HELP!

Learning to tpye

Some time ago we bought a Commodore 64, complete with disk drive and printer. Part of the strategy was that with the aid of a typing tutor our family could learn to type (our older son has a difficulty in writing).

Since then we have tried to locate such a program, but we've had no luck. Can you help?

WM Oswald, Blanefield, Glasgow

TIPS Amiga Assistance

Having just read your cover feature on infuriating problems, I find myself infuriated. I think that you have given a bad solution to a very minor problem. I am talking about the "Working out with Workbench" piece of your feature. The solution you give is far from ideal for several reasons: firstly, as you state, this will rapidly lead to a half megabyte user running short of memory space: secondly, it is messy and time consuming. The more so if the c directory has had useful PD commands added. The solution I recommend is as follows.

Purchase a PD disk containing a crunch utility, and crunch all large and infrequently-used files (Preferences is a good candidate for starters). Then you will have 20-30 per cent more disk space. Delete all printer drivers and keymaps that are not used (more disk savings).

Enter the CLI and type:

```
Ed df0:s/Commands
```

Create the following file:

```
Echo "*NCopying commands to RAM:*N"
Path RAM
Copy SYS:c/copy to RAM:
Copy SYS:c/cd to RAM:
Copy SYS:c/delete to RAM:
Copy SYS:c/type to RAM:
Copy SYS:c/dir to RAM:
Copy SYS:c/list to RAM:
Ask "*NCopy ED to RAM: (y/n)"
If Warn
  Copy SYS:c/ed to RAM:
Else
  Echo "*NED not copied"
EndIf
```

This file can contain any commands that you choose. The PATH command causes the Amiga to search the RAM device before searching the c directory and minimising the amount of RAM used up. This file also gives you the option of copying ED on the screen editor, you can type y or n as soon as the echo command prints the "Copy Commands to RAM:" statement. On entering the CLI you only need to type "Execute Commands" to invoke this batch file as Execute looks for script files in the s directory. (This cuts down the time taken for the Amiga to give a directory of the disk's root by cutting thel amount of files in the root.)

I would recommend that Wb 1.2 users obtain copies of the following PD packages: 1. GOMF, 2. Conman, 3. RunBackGround, 4. either DMouse ore PopCLI, 5. Crunch!, 6. A function keys editor.

My startup sequence is as follows, and minimises startup time by not doing any copying (apart from the Ram RAM-disk icon).

The CLI is accessed by holding the Left Amiga and ESC keys (DMouse).

```
Gomf
Path RAM:
Failat 30
Conman -c -q -t
RunBackGround -5 df0:c/FuncKey df0:s/Func.Key
DMouse -a2 -s120 -c2
Copy RAMdisk.info to RAM:disk.info
LoadWb
EndCLI > nil:
```

If readers are likely to have difficulties obtaining these packages or installing them, I am willing to give copies to anyone who sends me a disk and adequate return postage. The disk contains all the relevant text files for the PD programs contained within it, which can then be removed to another disk, freeing further disk space. I have also put on 2 virus killers, a bootblock viewing utility and a funtion key editor. I will do this free of charge as a service to all Amiga owners who need that little bit of help getting to grips with the Amiga's DOS, and OS come to that.

The address is:

Greg D Hewitt-Long, 111 Marston Rd, Stafford, Staffordshire ST16 3BT.

P.S. This system may be used to set up a RAD: disk in Wb 1.3 as follows:

```
s/Startup-Sequence
  Mount RAD:
  Mount NewCON:
  Resident c:Copy Pure
  Resident c:Execute Pure
  Ask "*NInitialise RAD: (y/n)"
  If Warn
  Execute RADSet
  Else
  Echo "*NRAD: not Initialised"
  EndIf
  Path RAD:
  Path RAM:
  System/FastMemFirst
  Run >NIL: SetAlert
  FF >NIL: -0
  MakeDir Ram:T
  MakeDir Ram:Env
  Assign T: Ram:T
  Assign ENV: Ram:Enf
  Path sys:utilities sys:system sys: s: ADD
  Resident CLI L:Shell-Seg SYSTEM Pure
  LoadWb
  EndCLI > nil:
s/RADSet
  sys:System/FORMAT DRIVE RAD: NAME "RAD Disk" NOICONS
  copy Shell.info to RAD:
  copy c/cd to RAD:
  copy c/copy to RAD:
  copy c/delete to RAD:
  copy c/type to RAD:
  copy c/dir to RAD:
  copy c/list to RAD:
  copy c/Ed to RAD:
```

This does, of course, assume that RAD: in included in your mountlist.

Finally, here's a tip that I have not seen printed anywhere.

Everyone knows about Ctrl-D to halt a batch file. This has a low priority interrupt that stops the execution after the current command has been finished, but Ctrl-C has a higher priority interrupt that will halt a command in its tracks. This is useful if, say, you have just asked for something like "DIR c" which can take quite a few seconds to complete. If it was a mistake try a Ctrl-C to end the directory. I have not tried this during a write to disk, as I don't think it is such a good idea – it may knacker the disk (quite possible, knowing how temperamental Amiga DOS is).

• Sorry, Mr Oswald, I'm afraid I can't. I have a vague recollection of a typing tutor program for the C64 about three or four years ago, but I haven't seen it mentioned anywhere for quite some time now.

My researches turned up suitable programs on the PC and the Amiga, but nothing on the C64. Perhaps one of Express's readers could help ...

HELP!

Meeting specs

I urgently require a computer for my course at the end of January and I don't know which computers are suitable. I have been given the following specification:

512K RAM, single disk-drive, PC-compatible keyboard, mono monitor, printer and serial ports, mouse, printer, MS-DOS 2.1 or higher, and the machine should be capable of running GEM V2 or higher, *Lotus 1-2-3, PC Automator, UCSD Pascal,* and *First Framework.*

In addition to the above I would like to be able to play games and program in several languages. Being a student I do not have much money to spare.

I had thought about the Atari 520STFM with *PC-Ditto* – does that fit the specification?

Matthew Cochrane

• Although an ST with *PC-Ditto* might cover the technical side of things, your main problem is likely to be speed under the PC emulator, especially when running your own programs in Pascal.

It won't be your cheapest option either, since you have to have a monitor (running 80-column screens on a TV is not recommended). The cheapest ST deal going will cost you £600 for ST and colour monitor, and another £70 for *PC Ditto* – your minimum system.

In comparison you could get a working PC-compatible system for as little as £460 (the Olivetti PC1 from Dixons), or around £600 for a generic PC-compatible such as those from SBC, Opus, or a dozen other manufacturers.

Admittedly, the PC-compatibles will be with mono monitors and not good for games on that score, but you could easily upgrade to CGA, or the much better EGA later when you have more money.

In the long term, the PC will work out cheaper if you get into computing seriously. Extra disk drives, memory, and hard disks will cost far less on the PC than on the ST.

For a printer, if you saw last week's issue you'll know that for low-cost printing we recommended the Citizen 120D at about £135, but if you have trouble tracking one down, try the Panasonic KX-P1081 at about £170, or the Micro Peripherals MP135+ for about £140.

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Tech Tips, New Computer Express,
4 Queen Street,
Bath, Avon BA1 1EJ.

TIP ST-PC link

I notice in issue 9 of Express that Karl McAuley is interested in ST-PC disk compatibility. The speed problem you mention only affect 5.25" drives. There are so many PCs with 3.5" drives now that the problems are much reduced.

There is another reason why PCs cannot read disks created by the ST desktop format option. The ST disk format is similar to the PC's except in the number of sectors addressed by one directory entry. The ST's reading and writing routines are rather more flexible than the PC's so it can recognise a number of different formats, including PC format. This is the feature that many extended disk formatting programs exploit. The PC can only read/write its own format, so the compatibility is only one way.

The answer is to get a PD formatting program for the ST which can format PC disks. I use on called FORMAT11 which can do both extended formats and DOS-compatible formats.

Beware of using all DOS-compatible disks on your ST though – the ST stores a random number in the disk boot sector so that disk swaps can be noted. DOS disks simply have the DOS version number stored in the same place, so disk swaps can go unnoticed when using these disks.

I use a Compaq 386 at work with a 1.44Mb 3.5" drive and transfer data between the machines with no problem. There are a couple of things to note at the PC end.

First, the PC can be made to format a 3.5" disk to 720K in a 1.44Mb drive using the following command (assuming the 3.5" is drive B:):

```
FORMAT B: /T80 /N:9
```

It is even possible to format a single-sided disk even though IBM have never used 3.5" single-sided drives. The following line must be added to the config.sys file:

```
DEVICE = DRIVER.SYS /D:1/H:1
```

This adds an extra logical drive with only one head allowing STers with single-sided disks to swap information with PCs.

Graham Curtis, Breadsall, Derby

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ST

A tale in the sting

The trouble with many amateur magazines is that they're often more amateur than magazine, seemingly produced by some budding teenage entrepreneur with more spots than business sense. The result is that you send off your few quid for a subscription, get one copy, then a letter of apology over the delayed second issue, followed by an extremely long silence. You then write it off to experience and mutter something about a fool and his money.

They're not all like that, though, and this morning's post brings the first issue of an ST newsletter/club that I know can be recommended, as it's run by someone with impeccable credentials – Sandra Sharkey, who ST users may know as the author of *Shymer*, the sample adventure that came free with Incentive's adventure writer *STAC*.

Sandra was also involved with the testing of *STAC*, has been writing an adventure column for one of the glossy monthlies for a while, and knows all about running a magazine because she founded the adventure fanzine *Adventure Probe* – and that's still going strong a couple of years on.

Sting is the name of her new club exclusively for ST types, and the first issue of the newsletter offers you 32 A5 pages for your money. As is to be expected from someone with such an adventurous background, there's a strong (probably too strong) emphasis on adventure and RPG games, with reviews of *Alternate Reality* and *Lancelot*, maps of *Bard's Tale* and *Alternate Reality*, a solution to *Hitchhiker's* and hints on *Bard's Tale* and *Sentinel*. There's a *STOS* Basic listing, a few hardware hints and a page explaining the setting up of Stingware, which will publish members' games or utilities that they maybe want to earn a few bob from rather than chuck them into the Public Domain.

The first disk available costs £4.25, so it's obviously something of a budget-budget house. There's also a special offer of ten DS/DD disks for £10.95.

STING: The Newsletter will need to add a bit of variety to its contents if it's going to succeed, but as the editor says, "The first issue is always difficult to produce because you don't know your readership and there's no feedback to work from."

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Drop me a line

I'd be interested in hearing what you've got to say on all matters relating to the ST, so put pen to paper or finger to keyboard and write to Club ST, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

Palace approves piracy shock?

I well remember my first conversation with Pete Stone of Palace Software. I was interviewing him for *The Guardian* about the *Barbarian*/Maria Whittaker mini-controversy a year or so back. A storm in a D-cup I suppose you could call it, when one retail chain banned the free poster that came with the game.

Pete managed to tell me with a straight face that "Samantha Fox is very big in Germany."

Barbarian II is about to arrive any day now in its ST incarnation. "It was actually finished just before Christmas," Pete told me, "but we've been play-testing it since then to get rid of a few bugettes and it should be out by late January/early February." And a free Maria Whittaker in every pack? "Well, you'll have to make do with a poster."

BARBARIAN II
LEVEL 3
0031310

• **Barbarian II on the ST: Due out any day now**

So what else is happening ST-wise at the Palace?

"We've got *Cosmic Pirate* on our Outlaw label, probably out in February. That's programmed by Zippo Games, who are all people who have been around for quite a while under various names. They've been involved with Rare – you know, the ex-Ultimate people – producing original arcade games for the Nintendo machines, and *Cosmic Pirate* is their first original computer game. It's a space shoot-em-up cum piracy trading game."

Another *Elite* then?

"No, not at all. It does sound like it if you describe it simply like that, but you'd have to see it to know that it's very different. It's got proper graphics for one thing, not vector graphics."

OK, the NCE team will be poised for a comparison road test when it's ready. What else is new?

"We're working on the ST version of *The Shoot-Em-Up Construction Kit*, which first came out on the Commodore 64 about a year ago. The ST version should be ready by about April. It does all the things the 64 version did, but obviously takes account of the extra facilities you've got on the ST, like loading in your own sampled sound effects for one thing. Its big advantage over something like *STOS*, which I think is the only vaguely similar program on the ST, is that you don't have to be a programmer to produce your own games. It's all menu-controlled, with separate sections for sprite design, background design, linking a particular sound effect to a specific graphic and so on."

Yes, well, they all say that, don't they? But it will be interesting to see such a utility on the ST, as there are several on machines like the Spectrum and 64. I don't recall any Earth-shattering programs being published as a result of them, unlike similar adventure-writing utilities, but they're still fun to mess about with, allowing you to produce your own custom-made games. If you happen to want to write a game called *Rhubarb Invaders from Venus*, these programs give you your chance. Just don't send it to me, that's all.

Mike Gerrard

PC UPDATE

The BMW syndrome

Advertising inspires many strong emotions. Anything from anger at the gall of the advertiser in believing his offering could fool us into buying, to laughter at the wit of the ad's storyline, to puzzlement at its purpose. This last condition is especially relevant to cars and computers.

Ask a rising executive (especially one in the computer industry) what car he/she aspires to and its 50/50 the answer will be "A BMW". Through years of newspaper and magazine ads, BMW has managed to establish a niche for itself as a luxury, top-person's saloon car, with all the power and black trim that goes with it. Yet in Germany they are put pretty much in the same league as high-end Fords.

Ask a cross-section of business computer users their opinion of the Apple Macintosh and the polite ones will say "Jolly nice, but miles too expensive". Yet in the US they are one of the true "home" computers. Pricing is such that students and businessmen can afford them in pretty much the same way they did the original Apple IIs. Apple UK has worked hard to give the Mac its exclusive image over here.

Ask a PC power user what the difference is between a Compac 386 and a Walters 386 and he's likely to say "Quality" (especially if he owns the Compac). Yet there is not that much difference between them. The Compac is probably a touch faster (I'm guessing – I haven't tested either), a bit more chic and a whole heap more expensive. And as far as quality goes, I'd be happy to take a small wager that the return and repair rates on the two machines are not that different, though you'd find it hard to winkle figures out of either company.

The whole point of this diatribe is that very similar products can sell in completely different price bands and maintain profits for their suppliers largely on the strength of their respective advertising styles – and budgets. If you're thinking of buying a micro, ask a few questions on return rates and advertising policy. If you get any answers at all you might be surprised to learn which companies are really offering value for money.

What a whopper!

It's always nice to dream, isn't it? If you're a hand-held scanner user or are thinking of investing in some DTP kit, then spare a thought for the Mitsubishi SP-MH216AF. This is the snappily-named scanner from the world's largest manufacturing company. The interesting thing about it is that it's not 2.5" long, nor yet 4" long, but a somewhat exceptional 8" long. This means you can scan an A4 sheet from side to side in one swipe. Gasps of amazement echo round the room.

Not only that, says the hawker now well into his patter, but it can be clipped into an optional motorised cradle (SP-MH01FA for the figure conscious) which allows you to feed sheets through the complete system in the same way you would a FAX. Talking of FAXes, the combined kit would make an ideal FAX input device as well as being just the job for DTP. What a clever idea!

Before you all go out and buy one (try Midwich Thame on 084 421 7676) there are a few things on the down side. First, the software, though smart enough to use your hard disk as a graphics buffer, is rather slow for doing anything useful, like turning an image through 90 degrees. Also, the scanner costs a cool £599, with an extra £168 for the cradle. Adding VAT to that lot gives a total of £882. Still cheaper than many flatbed scanners, though, and for my money a lot more versatile.

Simon Williams

Batch keys

One of the failings of the MS-DOS batch file system is the lack of any key press detection. Without it, it's not possible to ask 'Press Y for Yes or N for No' type questions within batch file. It's easy enough to add this feature, though it does require brief use of DEBUG to write a short machine-code program. Just follow the extract exactly as it appears.

The parts you type are printed in bold – the responses of the PC are in normal weight. Note that [Return] means press the Return key, not type the characters. The rows of n's represent address locations which will vary from PC to PC. Note also that the fifth line down is 'cmp a', followed by a lower case L, not a figure one. All other 1-shaped characters you type are ones.

```
A>debug [Return]
-a 100 [Return]
nnnn:0100 mov ah,8 [Return]
nnnn:0102 int 21 [Return]
nnnn:0104 cmp al,0 [Return]
nnnn:0106 jnz 10a [Return]
nnnn:0108 int 21 [Return]
nnnn:010A mov ah,4c [Return]
nnnn:010C int 21 [Return]
nnnn:010E [Return]
-u 100 10d [Return]
nnnn:0100 B408          MOV   AH,08
nnnn:0102 CD21          INT    21
nnnn:0104 3C00          CMP   AL,00
nnnn:0106 7502          JNZ   010A
nnnn:0108 CD21          INT    21
nnnn:010A B44C          MOV   AH,4C
nnnn:010C CD21          INT    21
-r cx [Return]
CX 0000
:e [Return]
-n reply.com [Return]
-w [Return]
Writing 000E bytes
-q [Return]
```

What this bit of work does is to create a file called REPLY.COM which will return the key code of the last key pressed in the batch variable errorlevel. You can incorporate it into a batch file like this. This short file looks for [F1] or [F2] or any other key in a continuous loop. Make sure REPLY.COM is in the same directory as the batch file when you run it.

```
echo off
cls
echo F1 – Clear the Screen
echo F2 – Display the directory
echo Any other key to quit
reply
if errorlevel 61 goto END
if errorlevel 60 goto F2
if errorlevel 59 goto F1
goto END
:F1
cls
goto END
:F2
dir
:END
```

You'll need to look up the codes of the keys you want to detect in a DOS reference book. The code extracts are from Supercharging MS-DOS by Van Wolverton – a great book. Its ISBN is 0-914845-95-0.

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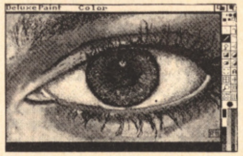

• Deluxe Paint 2: due for major revision in March

While these programs have rightfully earned themselves places in the Amiga history books, the undoubted king of them all is Electronic Art's *Deluxe Paint 2*. If like me you're an ardent fan of *DPaint 2*, then you'll be pleased to hear that *Deluxe Paint version 3* isn't far off.

At the recent 'World of Commodore Show' in Toronto, Canada, Electronic Arts was showing a pre-release version of the new *DPaint*. The program, that many industry speculators claim should be available around about March, includes many enhancements over the current *DPaint version 2*.

The most notable enhancement is the inclusion of a comprehensive animation facility. Other features include direct support for OverScan, Extra Half Brite and far superior handling of text fonts. *DPaint 3* also includes *Photon Paint* lookalike features such as brush wrapping and tinting. At last Electronic Arts has seen the light and the old cronky *DPaint* file requester has been replaced with a new, high-tech requester.

Competition is hotting up, however, as rumours have been filtering through from the States that MicroIllusions is well prepared to defend their flagship product, *Photon Paint*, against this latest threat with the release of a new super enhanced version called not surprisingly, *Photon Paint 2*. No details of this update are as yet available.

Amiga BBC BASIC

The Amiga BBC Emulator is finally with us and after months of waiting, first impressions are generally favourable. The question on most peoples lips at the moment is "Where does the BBC Emulator go from here?".

When I recently phoned Dave Parkinson, programmer of the Beebulator, at Ariadne, I put this question to Dave. Dave seemed uncertain about any future enhancements, "...Updates will certainly continue but something like a BBC Master Emulator seems unlikely unless public interest in the existing Beebulator is substantial..."

What seemed most likely and preferable to Dave personally was a complete Amiga version of BBC BASIC complete with all the bells and whistles that the Amiga offers. Dave continued, "...What the Amiga really lacks is a decent, Fast, BASIC. I would like to see the BBC Emulator BASIC evolve into an Amiga BBC BASIC complete with commands to access every facet of the machine such as the Blitter, Sprites and Sampled Sound."

BBC BASIC for the Amiga is still only an idea on the drawing board at Ariadne but if Dave gets the kind of backing he requires, the product could be ready within as little as six months.

Amiga Macintosh Emulator

Not another emulator, I hear you cry! Now all the excitement and public interest in the Amiga BBC Emulator has levelled out, the next machine set to get the Amiga treatment it Apple's highly successful Macintosh Machine.

ReadySoft, the American company which brought you *Dragon's Lair* and the Commodore 64 Emulator, has a hardware based Macintosh Emulator due for release this year. The MAX Emulator plugs into the external drive socket and allows Macintosh software such as *PageMaker II*, Quark *XPress* and most importantly in the view of many at Future Publishing, the excellent Mac game *Crystal Quest!*. The cartridge comes as a complete unit and does not require the user to purchase ROMs from Apple as was the case with similar units on the ST. Price is expected to be around $150 in the States. No news of European distributors as yet but without doubt if the product works well, the MAX unit will eventually reach Europe.

Jason Holborn

Message Port

If you have any views on any issues raised within AmigaBLIT or any issue within the Amiga scene in general, why not write in and air your opinions. Similarly, if you have any great tips or tricks for either games of serious software that you think will be of interest to other AmigaBLIT readers, why not send them in also? The address to write to is : AMIGA BLIT, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

Getting the Better of Interceptor

After a weeks rest, the game tips section of AmigaBLIT is back again with a real gem of a cheat. The program below is a great hack for Electronic Arts' Amiga classic, Interceptor. The cheat allows you to choose any of the missions within the game without having to have gained the necessary experience and the man to thank for this great cheat?... a certain Dave Collins from Salisbury.

The cheat requires you to first create a log disk within the Interceptor game. To use it, first load AmigaBASIC (or HiSoft BASIC!) and enter the program below and then run it. When requested, insert your log disk and the program will do its stuff.

Now load Interceptor, insert your log disk when requested and you're away. Now if you select option six from the menu, you will be able to try out any of the missions.

```
PRINT "INTERCEPTOR HACK V1.01"
PRINT
PRINT "PLEASE INSERT LOG DISK IN DFO:"
PRINT "AND PRESS <RETURN>"

WHILE ANYKEY$ = ""
ANYKEY$ = INKEY$
  WEND

OPEN "R",#1,"DFO:CONFIG",1
FIELD #1,1 AS A$
LSET A$=CHR$(1)
PUT #1,2
FOR L = 22 TO 27
  PUT #1, L
NEXT L
CLOSE #1

PRINT "OK. JOB DONE....."
```

SPEX

Call for independents

No fanzine editor has yet been brave enough to send me an issue of their mag for review. No doubt they are afraid of the great influence *SPEX* has; one derisory comment and they'd be finished!

So for the time being, my friends, you'll have to put up with me plugging independent magazines I already subscribe to and enjoy. One 'zine I'm never seen without is *EPROM*, a 64-page A5 publication carefully sweated over by editor Tony Worral. Originally set up to give Tony something to do when he was unemployed, the mag contains loads of in-depth reviews as well as comprehensive programming, adventure and playing tips sections, which ensure no part of Spectrum society is excluded.

Well-written and good looking, *EPROM* also has a variety of interesting articles and informed comments on the state of all things Spectrum. You really get the feeling certified Speccy fanatics put the mag together, and that's meant in the nicest possible way! Would-be readers should send £1 for the latest issue to **Tony Worral, 328 The Maltings, Penwortham, Preston, Lancs PR1 9FD**.

Rarely Playable Games

Now shoot-em-ups I love, arcade adventures can do no wrong, and I've struck up a friendship with many an adventure, but role-playing games on the Speccy have never managed to turn me on.

The heroes seem to have a distinct lack of vowels in their names, you get killed off with alarming regularity, and it's necessary to read through half a dozen phone-directory-thick manuals before you even get the merest sight of an orc.

US Gold has tried to woo moaning minnies like myself with its official *AD&D* licence *Heroes of the Lance*. This is an attempt to introduce some arcade action into gloomy dungeons with joystick-controlled combat and real-time animation.

I probably would have been won over to the joys of RPG if it hadn't required a multi-load marathon of vast length. I counted six separate loads before I even got to bash a basilisk. Maybe the programmers should take some tips from Incentive on how to compress their code.

Anyway, the game plays quite well, despite the aforementioned loads and petite graphics. It's quite involving as you control your fearless party of eight stupidly-named characters through the usual crowd of nasties. I can see a lot of people liking this one, but I'm still not convinced. Now if we could only persuade Mirrorsoft of the commercial potential of *Dungeon Master* on the Spectrum...

Batsolution

Having problems saving the world again this week? That dastardly Penguin getting the better of you? Wearers of external undies and blue tights read on, because I'm proud to present the solution to *Batman* part one (pause for fanfares).

First of all, insert the disk into the batcomputer. Go to the room with broken machines and use the tool. Leave the Batcave, run right, climb up the ladder and collect the rope. Next, go right until you find a locked door. Pick the lock with the lockpick you should have taken from the Batcave (oops!). Go through the door, wander around and find a lift key. This gives access to the lift (of all places!). Explore some more, and collect a games disk and dart. Head for the room entitled "Two Halfs" and use your rope. Throw the dart at the picture of Batman and a pass will reveal itself. Now exit and return to the lift. Go right, down a ladder and right again until you find the mansion. Before entering, go a screen to the right and pick up the key. Then hotfoot it back to the mansion and gain entry with your pass. Who turned out the lights? Heaven knows. Just use your torch and stop asking questions. Go to a room containing a TV and video and put the tape on. Find the flight of stairs located somewhere else too complicated to explain, and unlock the door. Walk sedately through the door entitled "3 Steps to Hell" and turn right. After a while you'll come to a room full of computers. Simply use disk to finish.

BATMAN
HA HA HA

Robin Alway

Publish and be damned

Mention desktop publishing on the Spectrum and you'll get chuckles, laughs and even hoots of derision. It's just another case of some people not realising our computer's versatility and surprising power.

Don't worry, I'm not going to make a case for the Spectrum being able to outdo a Big Mac, but it can produce some impressive results with a suite of 3 DTP programs from Cardex. They first saw the light of day over a year ago, but I think are worth another mention, just for those new (or not so new) Spectrumers who don't know what they're missing.

Anyone lucky enough to get a shining new Spectrum for Christmas should take particular note if they want to use their baby for something other than games.

The package is made up of three separate programs, all available singly. It includes Word Master, a decent word processor worth buying on its tod and Headliner, a useful program which allows you to design headlines (who'd have guessed!), logos and graphics.

The real meat of the package, though, is Typeliner. This is the desktop publisher, and it allows you to position text, past in graphics and shake it all about until you're ready to print.

There's no room for an in-depth review here, but take my word for it, some of the results possible will surprise you. They're easily professional enough for fanzines or newsletters.

The all-in price of £35 may seem a tad expensive, but it is proportional to the cost of DTP software on other computers. Personally, I reckon this one is worth every penny. For more details send an SAE to 61 School Street, Barrow, Cumbria LA14 1EW. The package is also available from MGT on disk at an all-in price of £37.80. You'll find them on 0792 791100.

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SECTOR 64 SECTOR

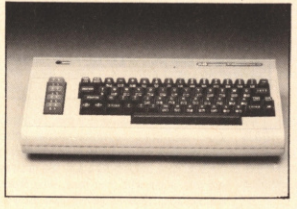
A musical instrument

Since the Commodore 64 was introduced it has become famous for its great Sid chip, which makes it the cheapest and one of the most powerful musical instruments around.

One of the people who helped give the 64 this reputation was Rob Hubbard, who is now in America. Another is Martin Galway, who made the 64 sound like an Amiga.

Things have moved on, though. Martin Galway has left Ocean/Imagine and gone freelance, joining up with Sensible Software and doing some cool sfx for it. And these days there are many more musicians who have mastered the Sid chip, including the Maniacs of Noise, who have done some cool tunes to many commercial games and public domain demos.

Compunet also has its share of musicians, and very good ones too. People such as Steve (Iceman) Hammond, Mark Tait, Deek, Mark Wilson and many more. Lots of famous musicians from Compunet have struck gold and moved on to Ocean/Imagine, one such person being Jonathan Dunn (alias "Choroid"), who left Compunet some while ago. We're sure all the others will be up there soon, and we wish them luck.



• Is the C64 the most powerful music machine there is?

Another famous Compunet musician is "Demon", who has done lots of work for Softek. It has been rumoured that he's joined The Maniacs of Noise. A few years back Tony Crowther and Benn Dalglish hit the industry as music talents under the name W.E.M.U.S.I.C. and seemed to have done well, but it all died off a year or so later.

Maybe in a few years' time there will be ten times as many people able to play our groovy Sid.

Meeeeooouwww...

Coming in January 25th at £1.99 from Players will be *Tomcat*. The game places you in the cockpit of a powerful F14 Tomcat, and your job is to wreak havoc across four devestating levels using air-to-air, air-to-sea and air-to-ground firepower. You have to destroy enemy tanks, ground installations, gunboats and helicopters, and each level culminates in a head-to-head confrontation with an awesome mechanoid adversary.

Tomcat features progressive weaponry, explosive sound effects, breathtaking graphics and compulsive gameplay. The Commodore 64 version is currently being written by the Digital Light and Magic team. It will feature full colour scrolling, devious enemy flight patterns, devestating sonics and riveting soundtrack by The Maniacs of Noise.

64 FX

The Commodore 64 has come a long way since it was first released, programmers have discovered many new things that this machine can do. Mostly, these revolve around the Vic chip. A team called "SCG" has managed to split the screen vertically and have the scrolling travelling in one direction in one half of the screen, and going the other way in the other half.

Here are other effects which have been discovered:

- over eight sprites
- over three sound channels
- 16 sprites on one line
- an effect to make you think you're seeing more than 16 colours
- bottom and side borders wiped out
- vertical and horizontal screen positioning
- screen wobble over 8 pixels
- scrollers using the screen colour
- (now) two-way vertical scrolling

Listing

This is a program to protect against reset. If your machine is reset while a Basic program is running, it will re-run the program from the start. The program must start from line 100. It works in the following way. If you put the numbers "$C3,$C2,$CD" at location $8004 it makes up the word "CBM". And putting the low byte and high byte of a start location at $8000 (32768) it will jump to it. For example:

```
  lo hi – lo hi
>8000 09 80 09 80 C3 C2 CD 38 .... CBM8
>8008 30 00 00 00 00 00 00 00 0............
```

When you rest the C64 it will jump from the example above to $8009 ($80-HI 09-LO)

```
0    B=32768
1    RESTORE:FORL=0TO21:READA:POKEB+L,A:NEXTL
10   DATA 9,128,9,128,195
20   DATA 194,205,56,48,120
30   DATA 32,21,253,32,91
40   DATA 255,32,89,166,76
50   DATA 174,167
100  POKE53280,3:POKE53281,1
101  PRINT"[CLR HOME][CURSOR DOWN][CTRL BLUE]"
110  PRINT"    **** IAN&MIC STARTUP PAGE V1.0 ****"
120  PRINT"[CURSOR DOWN] 38911 BASIC BYTES FREE LEFT FOR YOU!"
130  END
```

Cheats

Mach • Starvision

Our thanks to Kopmaster for this cheat. Load your cassette as normal, then play the game, trying to achieve a high enough score to get you on the hi-score table. Type STARVISION-IC in the hi-score table to give yourself invincibility.

Tanium • Players

Tanium is a verv hard horizontally-scrolling shoot-em-up. These pokes from Derek Hagan should make it easier.

Load the game, reset the computer and type:

POKE 52255,174:SYS 16384

This will give you an infinite number of ships.

Great Giana Sisters • Go!

Gary Gould sent us this tip, which will let you skip to the next level. Load the game, and when you are bored playing the level you're on, hold down the A, N, I, M and R keys.

Ian + Mic

CPC centre

Midi interfaces

Now I'm not the most musical of people, as anyone who's ever had to listen to me singing in the bath will tell you. Still, that handicap never did Stock Aitken and Dennis Waterman any harm, and despite my cloth ears I try to take an interest in these matters. I pass on the following snippets for your information.

DHCP (0440 61207), which produces its own Midi interface, has raised the price by a tenner to £69.95 – which doesn't include any software (that's an extra £34.95). (Dave Hickford of DHCP, by the way, wrote the laserharp software for Jean Michel Jarre, but we mustn't hold that against him.) The software it brings out is different for the various Midi interfaces for the CPCs, which are incompatible.

Electro Music Research (0702 335747), on the other hand, has brought its prices down. Its Midi Track package was £130 – including interface and software. Now it's down to £92.40 on disk. Its software is more general, but includes a very good 8-track sequencer (for those of you with 8 synths, you swines!).

Finally, while we're on the subject, you may care to hear of a brand new multi-track step time midi sequencer that's just been done – the only one available for the CPC, according to its author Chris Owen. Designed specifically for Ram Electronic's Music Machine Midi Interface, it works with the £200 Yamaha PSS680 multitimbral synth or similar. It enables you to play up to six different voices and four percussion sounds simultaneously, each with adjustable volume and full seven octave note range.

It's by Foundation Software (0252 543945) and the disk costs £29.95 including p & p. (This price, like all the others quoted here, includes VAT.)

Get your free plugs here

For a long time now I've been a regular and appreciative user of *Mini Office II*. So I was interested to learn of *Interceptor*, a new product from Camel Micros which loads into the extra memory of a 128K and waits for you to bring up its main menu. Now I've seen it in the plastic I can recommend it, and I shall certainly be loading it up each time I reach for *MO II*.

Options allow you to create ready made pro forma modules for the spreadsheet, database, word processor or comms programs. It's easy enough to save individual documents and load them from *MO II*, but with *Interceptor* the program code is saved with the data, making the program much easier to use. There are the usual disk housekeeping tasks (catalogues, renaming/erasing files, copying disks – you know the kind of thing) together with an option to save the current program module and all of its data onto a blank disk.. This makes the output from the various packages easy to incorporate within word processed documents.

Interceptor looks very good indeed, though at £15 you'd need to be a regular user of *M O II* (which only costs £20 on disk itself) to appreciate what it can do for you. More details from Camel Micros (0392 421105). There'll be a full review in *Amstrad Action*'s March issue, available February 9th (*That's enough free plugs – Express ed*).

What's interesting about this Camel project is that it suggests a completely new avenue for new CPC software. You, dear reader, are one of the thousands of CPC users who have word processors, databases and spreadsheets and who would be very interested indeed to hear of memory expansions, customisers and general turbochargers of programs you already use daily.

Framed

The most hyped film of the 80's, *Who Framed Roger Rabbit* (who nicked his question mark, I want to know), is making its way to the small screen soon – your CPC, to be precise. You guide the lagomorphic hero through three sub-games in an attempt to prove his innocence (if you've seen his wife you'll know that he can't be that innocent. Kathleen Turner did the husky voice, by the way, though she doesn't get a credit). Activison is the one doing the dirty deed and you'll be able to judge for yourself, eventually. Don't hold your breath, though. Furthermore, recent reviews here in *Express* suggest that the gameplay is unlikely to be in the same league as the graphics.

Steve Carey

Chuck's up!

Chunk Yeager's Advanced Flight Trainer has been already been a major success on the PC – and let's face it, if it can make it as a game on the PC, it can make it anywhere! So the news that the CPC version will soon be hitting the streets – though not literally, I hope – is bound to make any lover of flight simulators lick his or her lips. That's the good news.

The even better news is that it's by Electronic Arts, one of the few companies around which seem incapable of releasing a bad game. So if Chuck is anything like as good as some of EA's 1988 releases such as The Bard's Tale, Arctic Fox and PHM Pegasus, then it should be a strong contender for the game of this year.

As if you need telling, Chuck is a flight simulation that puts you at the controls of any of 14 aircraft, ranging from the humble Sopwith Camel to several way-out experimental jets. Chuck Yeager – who's still going strong, I believe – is a retired USAF general and test pilot who's been flying over 35 years. Now all you've got to do is survive one flight. Still, the consequences of letting your mind wander aren't nearly so severe...

Oh yes, you're wondering what buying the farm's got to do with anything. It seems that in the test pilot business – you've seen The Right Stuff? – they don't talk about crashing. Makes 'em come over all funny, apparently, and you can understand why. Instead they refer to "auguring in", or – you've guessed it – "buying the farm".

• Chuck: Up in the air, but landing soon

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PCW PATCH

Why oh why

In some ways the PCW is an invisible computer even after sales of around 1 million units, most of which are still working despite the disparaging comments of industry pundits when they first appeared. "What, all that for only £400 pounds all in? It won't last three months," Well mine has lasted three years, printed out more than half a million words and is fitter than I am. Yet despite this success the PCW seems curiously adrift of the mainstream computer consciousness.

Talking business

Pay no attention to those who would have you believe that once you've invested your pennies in a PCW you are cut off from the outside world. These haughty folk will point at the PC and boast about the number of slots they have. A swift blow to the jaw will reduce the number of slots they have by one. Now you can tell them about the speech synthesiser board you've just bought.

SM Engineering has built a business on the back of the PCW, pressing it into service as a cheap development system for production control equipment. To show you can have fun on the bus it's put a speech chip and an audio amplifier on a board and made it so easy to program even a technical editor can do it.

Better still, get the talking board to tell them. Details from the men themselves at SM Engineering on (0323) 766262.

This is worth a thought; even the most rabid of games enthusiasts don't put as much time in on their machine as failed hack writers forever adding just another chapter to *Sword of KrayTwo, Demon Warrior Lord of Cyberia*: a fantasy cycle in forty six volumes.

Why is this potential market, so tied to its machine that it can no longer function in an enviroment without a blinking green cursor, so completely ignored by the rest of the computer world? Answers in under 100,000 words on 11 inch continuous paper, double spaced with 1 inch margins all round please.

Requiem

You've heard faded, jaded stars say how they kept going for the sake of the fans; well the same thing applies to computers. The QL for example, keeps going almost entirely through the devotion of its fans.

Well the PCW has fans too, naturellement, and when two fans get together they immediately start a fanzine. Fanzines are badly produced on cheap paper and edited by someone who can't bear to alter a word of copy (he thinks it might cause offence, real editors don't care).

Well one of our better fanzines just died. *PCW File*, RIP. Fourteen back issues are available from **C. Bryant, 11 Havenview Rd, Seaton, Devon, EX12 2PF** for £13.95.

Steve Patient

QL corner

Quanta

Originally called the *Independent QL User Group* (*IQLUG*) to distinguish it from the long-defunct official *Sinclair QLUB*, the group's new name stands for *Q L Users and Tinkerers Association*. The secretary, Phil Borman, can be contacted at **15 Grosvenor Crescent, Grimsby DN32 0QJ** (tel 0472 49850). An annual subscription of £14 gets you a monthly newsletter (usually 32 A5 pages) filled with correspondence from members, loads of workshops/seminars/meetings all over the country, and on-line help.

QUANTA is run by a new committee, following a minor scandal when the previous editor included material defaming a leading QL company and the committee had to publish an apology. The new newsletter has been regular and more interesting, with less emphasis on obscure/non-QL issues. Also, the unsolicited-letters-only format is to be replaced by regular reviews.

Hardly worth emulating!

More time has been spent with the ANT PC Emulator. Where do I begin? The ANT product periodically hangs (well, the manual warns that "it is not difficult to crash the emulator" – we agree), refuses to even load with *Trumpcard*, doesn't seem to work at all with standard Basics and even MDA graphics do not seem to function (CLS causes crash; subscreen scrolling, windowing and inverse video are all unsupported; characters cannot be read back off the screen).

CGA support? Zilch. The (non-configurable) keyboard driver doesn't cater for many common key combinations! Text output appears to be only in teletype mode – traps to move cursor position are ignored or disobeyed. Date returns what appear to be random numbers. There's no way to move data between QDOS and MSDOS, either direction. Multitasking doesn't work – I think CTRL/C is remapped to CHR$(256)!

Not SUBstandard

SUB stands for Super User Bureau – a sort of QL club. It has been around for ten months, and is located in an obscure corner of the land; the non-Antipodean West Auckland! You can write to it at PO Box 3, Shildon DL4 2LW or phone on 0388 450160.

At the start, SUB promised a monthly magazine for £15 a year: apparently, only two issues have been produced. This said, what did appear was fairly well-written and interesting. Certainly, no complaints from members have filtered in our direction. The group is enthusiastically run by Richard and Julie Turner.

Benchmarking is problematic, as virtually nothing works. I've managed to get one assembler working, but *Wordstar*, *Lotus*, *dBase*, *Wordperfect*, *Symphony*, *Framework*, *Supercalc*, *Turbo*-anything etc. all "decline".

However, you can use it to format a floppy. Time – 7 minutes plus. Lastly, there is no way to exit the product – RJOB causes a hang! Apart from that, no problems...!

Eric Simmonds

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BEEB BOX

Serious business

Discounted Cashflow, Net Present Value and Annuities are all subjects guaranteed to send any small businessman or woman reaching for a stiff drink (*Mine's a treble – Ed*). Why? Because they don't understand them. Yet all three are very standard techniques for helping businesses assess the risk of undertaking any project requiring capital expenditure.

Now you may think this all sounds a bit high falutin' for a column devoted to the BBC, but in fact the good old Beeb has for a long time been the mainstay of many a one-person outfit.

I would even go so far as to say that in its Master 512 incarnation the machine has more business software written for it than ANY other micro. So this week I am going to pay a bit of attention to the business user, by taking a look at some new products that give a helping hand to hard-pressed business people.

Quiet please!

As an antidote to all this commercial stuff, here is a tip for all you brave people who don't mind taking the lid off their computer. On some Beebs the speaker volume is set so high that it can cause interference on a TV screen, not to mention annoyance to the user.

To alter this, look for a small, blue block just below R24 (on a model B). The back of this block has a volume control, which can be adjusted using a small screwdriver. Master owners can use the *CONFINGURE QUIET command for a similar effect.

Dead Clever Fings

First off the line is *Handling Time* from RBRC software, tel 01-946 8641. This will get you to grips with the aforementioned DCF and associated topics. The program is worth getting for the manual alone, which gives a better exposition on how to use DCF than I ever received when I studied the subject.

The software is, however, really only an on-screen version of the material in the booklet, but as it is designed to be used as part of a course, this is OK.

Going it alone

Secondly, from Science Education Software, tel 0341 423305, comes *Business Planning*, which is directed at those aiming to start up a new business, but who have little or no knowledge of how to do it.

It could also be used in a classroom situation for sixth form students. Coming on three 80-track disks, the software is comprehensive, taking you from basic concepts all the way to your own business plan, and including such things as profit and loss forecasts and drawing up balance sheets.

The two manuals provided are not so impressive, being printed in a rather greyish typewriter font. They are also rather cursory in style, something that is inevitable given the size and complexity of the subject.

Andrew Brown

MSXTRA

Big plans

I have recently been in touch with two of the larger software houses, US Gold and Ocean/Imagine, with a view to finding out what their intentions are regarding releases of MSX software in 1989.

US Gold, it seems, will still continue to support the MSX in the coming year, with *Out Run* due out any time now. I have been promised a review copy, so keep reading *Express* for my views on the MSX version. US Gold has also promised to send me the *Pepsi Mad Mix Challenge* for review. This game was not well received on other formats, so will the MSX version be any different? Watch this space to find out.

Ocean has no titles for release in the UK at present. Any new Ocean titles you see on sale in the UK have probably come from Spain. Ocean is continuing to support the Spanish market, converting many current titles to the MSX format.

There is good news from Ocean for the UK user, though. It intends to release more titles for the UK MSX market later this year. Is this to coincide with some new machines being released here, I wonder? One can always hope.

Funny old game

When I received *The Games, Winter Edition* from US Gold (Epyx) for review, I hoped that it would be better than the previous sporting title, *California Games*. Well, it is an improvement, but still could have been better. The graphics are similar to the style used in *California Games*, e.g. monochrome stick figures. Luckily, the games are far more interesting.

Mechanical cheat

If you are an avid Konami cartridge fan (as I am), but get increasingly frustrated at not being able to play the later levels because the early stages are too darned hard, may I recommend the Games Master cartridge from that company.

This device is a reviewer's dream, as it allows you to play stages that would normally takes weeks to reach. Games Master also allows you to slow down or stop the action, and increase your number of lives. You can also use Games Master to save your last playing position to tape or disk, and you can then load in this data and start from where you left off.

One of the most useful options for as far as I'm concerned is the ability to dump screens to my MSX printer. The results are quite impressive. Games Master is a great device, but a little expensive at £18.95.

Somehow, I found *Games* to be fun to play, in spite of the graphic limitations. Sound effects are pretty basic, and the multi-load feature is a real pain, so maybe I'm awarding six out of ten for this game. I think Epyx's programmers should look at the way Konami produces sports simulations for the MSX, since the former's efforts don't bear comparison.

Keith Neal

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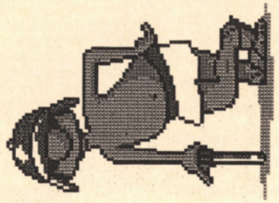

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PSsst!

More last words from Private I, whoever he (or she) may be

Christmas Competition Prize Winners

Response to our festive quiz was enormous and at last we've managed to sort out the lucky winners. The first 100 names drawn out of the *Express* hat, together with the prizes they won, are:

12 War in Middle Earth – Melbourne House

1 Ingrid Cox, Bristol
2 Kit Lane, Stanton-Under-Bardon, Leicester
3 Jeremy Cogman, Fleet, Hampshire
4 Kashi Quraishi, Hayes, Middx
5 John Charlton, Nexham, Northumberland
6 Phil Turner, Camberwell, London
7 J P Neale, Sutton, Surrey
8 B Page, Blackpool
9 Paul Cunningham, Stockport, Cheshire
10 T Bratley, Grimsby, S Humberside
11 Stephen Norman, Holcombe, Bath
12 James Brooker, Stevenage, Herts

11 Football

Jack Schofield, *Guardian*

10 R-Type – Activision/Electric Dreams

1 Rem Plenzik, Broadstairs, Kent
2 I J Doble, Bristol
3 J M Sims, Rustington, West Sussex
4 M Holliday, Blackburn, Lancs
5 Shaun Donaghy, Rugby, Warwickshire
6 K Davies, Farnborough, Hants
7 Matthew Crowk, Kensington, London
8 Matthew Demonti, Wellingborough, Northants
9 W Gilfillan, Bearsden, Glasgow
10 A Bogue, Stourport, Worcs
11 Nick Taylor, Leechmere, Sunderland,
12 R A J King, Saltash, Cornwall

9 Purple Saturn Day – Infogrames

1 David Sambrook, Manchester
2 S Carter, Gillingham, Kent
3 Robert Sutton, Congleton, Cheshire
4 Trevor Lyall, Berwick On Tweed, Northumbria
5 Mark Everett, West Bridgford, Notts
6 David Fan, Co. Dublin, Ireland
7 W Davies, Clwyd, North Wales
8 Christopher Smith, Fintray, Nr Aberdeen
9 Kevin Taylor, Manningtree, Essex
10 Kolin Robertson, Nr Spalding, Lincs
11 G J Jones, Bridgend, Mid Glam
12 Kevin Ault, Ripley, Derbys
13 Mark R Jones, Sheffield
14 David Leadbetter, Crosby, Liverpool
15 William Sloane, Co. Antrim, N Ireland
16 Mike Hutchinson, Enfield, Middx
17 M Baker, Enfield, Middx
18 Neil Barber, Leeds
19 Stephen Clarke, Worcester
20 Eddie Moore, Warrington, Cheshire
21 Philip Smith, Bracknell, Berks
22 N Tiernex, London
23 Darren Ruggles, Burnham-on-Crouch, Essex
24 James Wicks, Hatfield, Herts

8 The In-crowd – Ocean

1 Intyaz Jumani, Birmingham
2 David Peters, Ealing, London
3 Martyn Hoskins, Bristol
4 Michael Wong, Cheshire
5 Jonathan Davies, Bristol
6 David Roberts, Stoke-on-Trent, Staffs
7 Barry Southex, Enfield, Middx
8 Gabriel Garrett, Galway, Ireland
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Congratulations to the winners, bad luck to the losers, and to all those who didn't take part, well you're looking pretty silly now.

Lesser known viruses

In the wake of the '1813' virus which threatened to bring the City to a standstill last Friday the 13th, PSsst! has got details through underground hacker sources of the next family of evil viruses that will end civilisation as we know it. You have been warned.

The 'Friday the Thirteenth' virus

Film scripts on word processors infected with this virus produce exact numbered copies of themselves ad nauseam. Classic cases include *Rocky*, *Jaws*, *Death Wish*, *Police Academy* and so on. There is no known cure.

The '1530' virus

This little number inhabits bank cash machines and gets spread through cashcards. It gets its name from the fact that, at 15:30 every day when the banks are shutting, it crashes any cash dispenser it resides in rendering it unable to give cash.

The 'PCW' virus

Cause of infection is unknown but this is now believed by editors to reside in every PCW. It gets into text documents such as letters and novel manuscripts, corrupting the buffer in the printer chip. Perfectly good text on screen is printed out as utter rubbish.

The 'Quantel' virus

This one came from the States and affects graphics computers used in TV. No change of camera can occur without the previous shot going into a box, being wrapped around a globe, spinning around and receding into the distance.

The 'Greenpeace' virus

A curious example rife in PCs in the City. When the user attempts to print anything it displays the message 'Save the rainforests!' and crashes. The solution involves calling in French secret agents who blow up the PC.

The 'Amstrad' virus

An inhabitant of the employees' PCs in Brentwood. If no key is pressed for more than five seconds, the message YOU'RE FIRED appears on screen, the user's P45 is printed and the computer locks up.

The 'Solomon' virus

An insidious routine spread by newspapers which are not hype-protected. This virus inhabits the memories of computer users. After they have told four people what a virus is, they suddenly and irrationally get so scared their own machine might be infected that they hire ridiculously expensive virus-busting services.

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